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# *Opuscula Philolichenum*

*small works in the field of lichenology*

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## MISSION

*Opuscula Philolichenum* is intended to serve as a venue for the publication of small works in the field of lichenology (including lichenicolous fungi and non-lichenized fungi traditionally treated with lichens). The central goal of the journal is to provide timely publication, in a professional format, free of charge to authors and readers. While the journal focuses on topics relating to the lichen biota of North America this is by no means exclusive and manuscripts on other topics will be considered as the table of contents of the present issue clearly illustrates.

Authors wishing to submit a manuscript for publication in *Opuscula Philolichenum* should contact the editor prior to submission to confirm that the paper conforms to the mission of the journal (outlined above). Manuscript submissions should be left unformatted and authors should consult a recent issue of *Opuscula Philolichenum* for style. All submissions are subjected to review by at least two peer reviewers and, following acceptance are formatted by the editor.

## NOTICE FROM THE EDITOR

When this journal began publication ten years ago it was among the first serials to take advantage of the internet when publishing new botanical nomenclatural acts. The journal was conceived as a primarily electronic one, available on-line free of charge (at <http://sweetgum.nybg.org/philolichenum/>), with a limited print run to satisfy the requirements for effective publication established under the *International Code for Botanical Nomenclature*. Since that time we have continued to publish the journal in this manner, printing one or two issues a year, with each issue consisting of between one and two hundred pages.

In 2004 we could not have foreseen the revolutionary changes that took place at the 18<sup>th</sup> International Botanical Congress in Melbourne. There the Nomenclature Section voted to allow electronic only publication of new nomenclatural acts beginning 1 January 2012. In response to this change *Opuscula Philolichenum* no longer produces hardcopy. Although a single printed copy will continue to be deposited in the library of The New York Botanical Garden.

Beginning with volume number 12 of *Opuscula Philolichenum*, manuscripts are published electronically on-line in PDF/A format immediately following the approval of the authors in the post-review proof stage. The PDF issued online is considered to be the final version (= version of record) and the date on which the PDF is posted is considered to be the date of effective publication. In order to aid future workers the date of effective publication for each manuscript is provided in the table of contents. When a new manuscript is published online a record is also simultaneously transmitted to the organizers of *Recent Literature on Lichens* for inclusion in that database.

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## *Varicellaria lactea* new to the U.S.A. from Alaska

TOR TØNSBERG<sup>1</sup>

**ABSTRACT.** – *Varicellaria lactea* is reported new to the U.S.A. from Katmai National Park and Preserve and Lake Clark National Park, both in Alaska. It was found on slightly overhanging rock walls on lake shores. The specimens agree well morphologically and chemically with material from Scandinavia (Norway) used for comparison.

**KEYWORDS.** – Crustose lichens, soralia, range extension, *Lepra*.

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### INTRODUCTION

Based on molecular methods the old genus *Varicellaria* Nyl. was recently given a new circumscription (Schmitt et al. 2012). Seven species previously regarded as belonging to *Pertusaria* DC., e.g. by Dibben (1980) in his monograph for North America, were transferred to *Varicellaria* (Schmitt et al. 2012). Species of *Varicellaria* have disciform apothecia, non-amyloid hymenial gel, amyloid asci containing 1–2, simple or 1-septate spores with unzoned walls and a thallus containing lecanoric acid (Schmitt et al. 2012). Three species of *Varicellaria*, *V. lactea* (L.) Schmitt & Lumbsch, *V. rhodocarpa* (Körb.) Th. Fr. and *V. velata* (Turner) Schmitt & Lumbsch have been reported from North America (Esslinger 2016, Lendemer & Harris 2017, McMullin et al. 2017, Schmitt et al. 2012).

Fieldwork in Katmai National Park and Preserve and Lake Clark National Park, both in Alaska, in 2013 and 2014, yielded two specimens of *Varicellaria lactea*. As the species has previously been reported in North America only from Canada (McMullin et al. 2017), these finds are reported and illustrated here.

### MATERIALS AND METHODS

#### *Herbarium specimens*

This study is based on the author's fieldwork in Alaska in the U.S.A., in addition to herbarium material in BG and UPS. The author's collections from North America will be deposited in BG; duplicates, as far as the material permits, will be deposited in ALA and OSC.

#### *Morphological and chemical studies*

The morphological characterization of the species was based on the material deposited in BG (about 30 specimens from Norway), if not otherwise stated. Soralia were sectioned in search of hymenia. Thin-layer chromatography (TLC) was carried out according to Culberson and Kristinsson (1970), Culberson (1972), and Menlove (1974). All the three solvents recommended by these authors were used, with aluminium plates in solvents A and B' and, to allow for the detection of fatty acids, glass plates in solvent C.

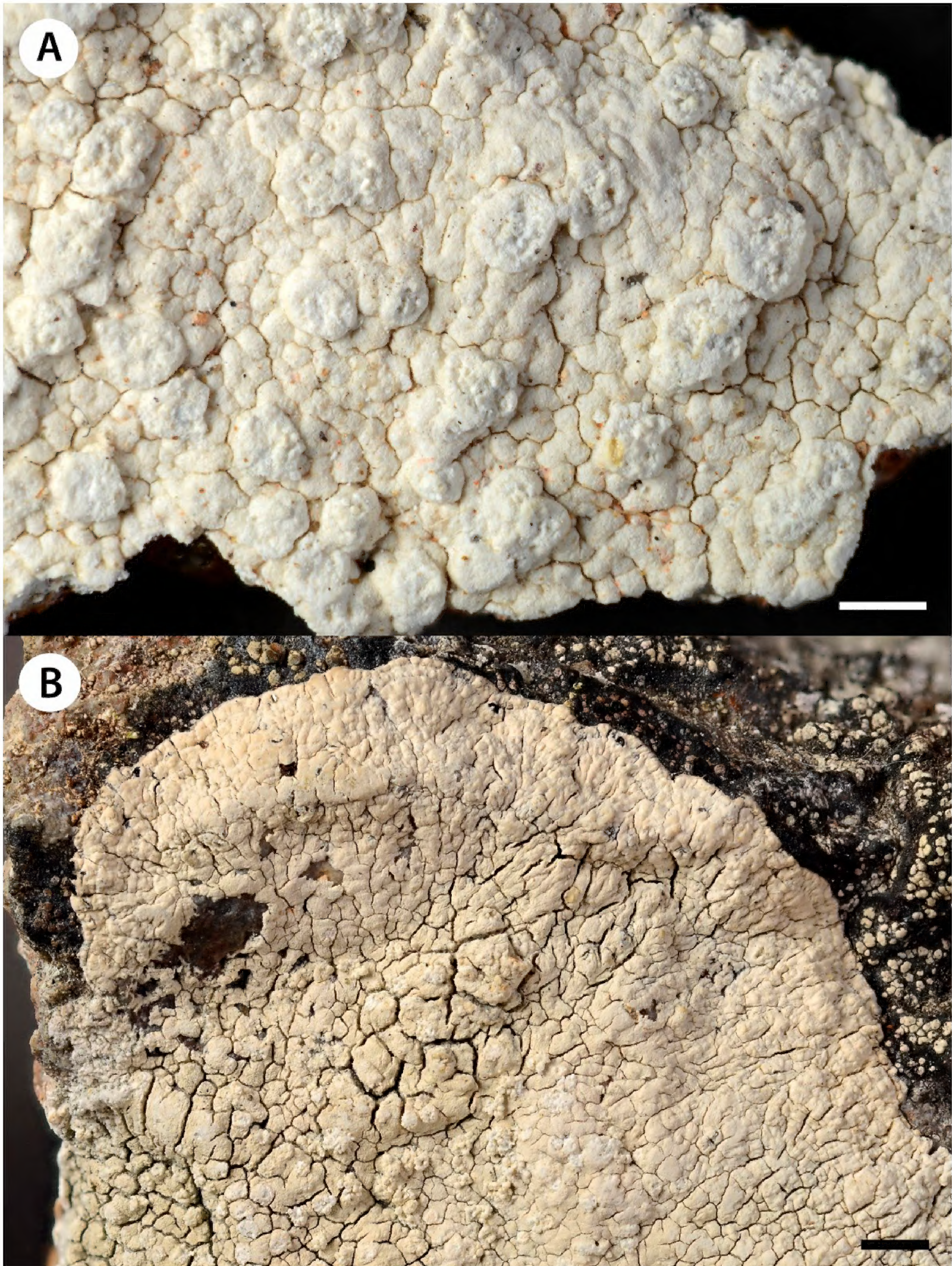
### RESULTS AND DISCUSSION

***Varicellaria lactea* (L.) Schmitt & Lumbsch**, Mycokeys 4: 31. 2012. ≡ *Lichen lacteus* L., Mant. Pl. 1: 132. 1767. **TYPE: SWEDEN, VÄSTERGÖTLAND:** Mularp, 6.viii.1922, leg. E. Vrang s.n. (UPS!), neotype [designated by Jørgensen et al. 1994]).

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**Figure 1.** *Varicellaria lactea* from Alaska. A, part of Tønsberg 42724b (BG). B, part of Tønsberg 43909 (BG). Scales = 1 mm in A; 2 mm in B. Photos by E. Timdal 2017.



Characterization of material from Scandinavia. – Thallus usually grayish to creamy white, matt or sometimes, along the margin, glossy, rather smooth to minutely warty, especially towards thallus center (distinctly warty in e.g. *Tønsberg* 9250), rimose-cracked; margin sometimes indistinctly zoned; areoles flat to slightly convex, more or less angular to rounded, mostly up to 1 mm wide, when larger usually in the process of forming cracks. Soralia irregularly shaped, diffuse and often efflorescent and up to 3 mm wide, or circular and surrounded laterally by an esorediate, thalline collar and up to 1.3 mm wide; the first diaspores often smooth, club-shaped to globose and resembling isidia, up to 0.4(–1.0) mm tall and 0.3(–0.9) mm wide, subsequent diaspores mostly irregularly rounded consoredia to 400 µm in diameter or more. (This type of soralia development where diaspores resembling isidia are produced first, and then soredia and/or consoredia, is described by Chambers et al. (2009) for *Lepra excludens* (Nyl.) Hafellner (as *Pertusaria excludens* Nyl.) and for *P. lactescens* Mudd.) Apothecia very rare, resembling soralia (Chambers et al. 2009), not seen. Medulla distinct, white. Photobiont layer distinct, just beneath the thallus surface. Prothallus white and of projecting bundles of hyphae at the thallus edge, or not evident. Photobiont green, coccoid, to 13 µm diameter.

In the literature consulted (e.g., Chambers et al. 2009, Erichsen 1936, Foucard 2001, Poelt 1969, Wirth et al. 2013), there is no information about the size of the thallus of *Varicellaria lactea*. In material of the species in BG there are specimens up to 14 cm in diameter (*Tønsberg* 7094 comprising only a part of the original specimen since the thallus margin is lacking) and up to 2 mm thick when measured through soralia (*Tønsberg* 36930). Although accurate field measurements of the diameter of whole thalli may be lacking, observations of the species in the field in Norway indicate that *V. lactea* may reach several decimeters in diameter (*Tønsberg*, pers. observ.).

Chemistry. – The chemical constituents are lecanoric and variolaric acids; the latter substance sometimes apparently absent (at least not detected by TLC). Esorediate parts of the upper surface C+ yellow (variolaric acid), medulla and the soralia C+ blood red (lecanoric acid). When C is applied to the thallus surface, a reticulate pattern of blood-red lines sometimes appeared reflecting the positive reaction with C of the upper medulla/photobiont layer evident through the rimose-cracks.

Characterization of the material from Alaska. – The specimens from Alaska agree with the material from Scandinavia characterized above. The specimen from Lake Clark is six centimeters in diameter, has parts of the thallus margin intact (Fig. 1B) and the surface is minutely warty, whereas in the specimen from Katmai (Fig. 1A) the thallus margin is not evident and the surface is not warty. The specimens are both sterile and their chemical constituents are lecanoric and variolaric acids.

In the genus *Varicellaria*, the creamy white thallus surface, the presence of soredia, the production of lecanoric and variolaric acids, and the saxicolous habit make *V. lactea* a distinctive species (Schmitt et al. 2012). The specimen from Katmai (*Tønsberg* 42724b) was closely associated (occurred side by side on the same rock wall) with a morphologically similar lichen (*Tønsberg* 42724a) which was identified as *Lepra excludens* based on morphology and its chemical constituents norstictic and connorstictic acids; the latter substance in trace amounts. Interestingly these two thalli (see Figs 1A and 2, respectively) could hardly be distinguished based on morphology only.

Distribution and ecology. – In Alaska *Varicellaria lactea* was found on rock walls on lakeshores at altitudes of 10–15 m (Katmai) and 450 m (Lake Clark). The species was recently (McMullin et al. 2017) reported as new to North America from British Columbia and Québec in Canada. The species is here reported as new to the U.S.A. from Alaska. Outside North America *V. lactea* occurs in Asia and Europe (Chambers et al. 2009, as *Pertusaria lactea* (L.) Arnold).

*Specimens examined.* – **U.S.A. ALASKA. LAKE AND PENINSULA BOROUGH:** Katmai National Park and Preserve, Naknek Lake, NNE of Brooks Camp, 58.56320°N 155.75915°W, alt. 10–15 m, saxicolous in shallow cavity in lakeshore cliff, 26.vii.2013, *T. Tønsberg* 42724b (ALA, BG); Lake Clark National Park, Portage Lake, bay on SW side, 60.5015°N 153.8776°W, alt. 450 m, saxicolous on overhanging rock wall on lake shore with cliffs and *Picea* forest, 12.vii.2014, *T. Tønsberg* 43909 (ALA, BG, OSC).





**Figure 2.** *Lepra excludens*, part of *T. Tønsberg* 42724a (BG). Scale = 1 mm. Photo E. Timdal 2017.

*Selected comparative material examined (all BG).* – **NORWAY. ROGALAND.** UTSIRA: SSW of Utsira fyr [light-house], 59.30549°N 4.87021°E, alt. 57 m, saxicolous on upper face of low boulder in coastal heath, 4.x.2017, *T. Tønsberg* 47534. SAUDA: ESE of Gjuvastøl, S of Storelva, along path to old zinc mines, 59°39.2'N 6°28.2'E [59.33333°N 6.47000°E], alt. 175 m, on N-facing rock wall in gorge, 1.viii.1999, *T. Tønsberg* 27358. **SØR-TRØNDELAG.** MELHUS: Lundadalen, 3–4 km E of brook Skarvbekken, alt. 170 m, 09.vii.1982, *T. Tønsberg* 7094. **NORDLAND.** LEIRFJORD: Leinesstranda, alt. 30 m, on shaded, N-facing rock, 23.vii.1985, *T. Tønsberg* 9250. MELØY: S of Glomfjorden, along Reindalselva, W side, 66°47.95'N 13°45.80'E [66.79916°N 13.76333°E], alt. 160 m, saxicolous on N-facing rock wall on riverbank, exposed to spray from waterfall, 19.vii.2006, *T. Tønsberg* 36930. NESNA: Tomma, N of Husby, between Tomsvika and Kvernán, 66.24843°N 12.73897°E, alt. 29 m, saxicolous on boulder in coastal heath, 20.vi.2016, *T. Tønsberg* 46501.

*Specimen of Lepra excludens examined.* – **U.S.A. Alaska. Lake and Peninsula Borough:** Katmai National Park and Preserve, Naknek Lake, NNE of Brooks Camp, 58.56320°N 155.75915°W, alt. 10–15 m, saxicolous in shallow cavity in lakeshore cliff, 26.vii.2013, *T. Tønsberg* 42724a (ALA, BG).

#### ACKNOWLEDGEMENTS

Thanks are due to Bruce McCune, Oregon State University, for the invitation to do lichenological field work in Katmai and Lake Clark National Parks and Preserves in 2013 and 2014, and for comments on the manuscript; the National Park Service (NPS), Southwest Alaska Network, Anchorage, for funding; Amy Miller and James Walton (both NPS) for project coordination and for organizing and executing field logistics; the curator of UPS for loan of type material; Einar Timdal, University of Oslo, for the photos; Beate Helle, University of Bergen, for technical help; and James Lendemer, New York Botanical Garden, and Troy McMullin, Canadian Museum of Nature, for pointing out to me recently published papers, e.g. on *Varicellaria lactea* in North America and for valuable comments on the manuscript.



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# A Cumulative Checklist for the Lichen-Forming, Lichenicolous and Allied Fungi of the Continental United States and Canada, Version 22

THEODORE L. ESSLINGER<sup>1</sup>

**ABSTRACT.** – Version 22 of the checklist of lichen-forming, lichenicolous and allied fungi occurring in North America north of Mexico is presented. It includes a total of 5,561 species in 755 genera, with an additional 41 subspecies, 44 varieties, and 3 forms. The total species number includes 615 lichenicolous fungi, 107 saprophytic fungi related to lichens or to lichenicolous fungi, and another 53 species of varying and/or uncertain biological status.

**KEYWORDS.** – Canada, floristics, lichens, nomenclature, United States.

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## INTRODUCTION

This checklist consists of cumulative updates to the most recently published North American checklist (Esslinger 2016). The same style and conventions for listings used there continue to be followed here. Within each genus the accepted names are listed first and are in boldface. Names considered to be synonyms are listed second and are presented in normal font only. Significant changes made since the last version (#21) are given in blue font. As before, the following symbols are used to indicate the lichenicolous fungi and other allied fungi: \* = lichenicolous fungi (parasites on living lichens), + = saprophytic fungi related to either lichens or lichenicolous fungi, on various substrates, # = various fungi of uncertain status: e.g.: those which are questionably or weakly lichen-forming; or algicolous/saprophytic; or parasitic when young but saprophytic or lichen-forming when mature; or lichenicolous lichens.

The first North American (north of Mexico) lichen checklist produced by Mason Hale and Bill Culberson in 1956 (*Castanea* 21: 73-105) listed 2,280 species in 193 genera (their count), and included few or no lichenicolous or allied fungi. Almost forty years later, the first checklist version with which I was involved (Esslinger & Egan 1995) reported 3,580 lichen species and another 219 species of lichenicolous and allied fungi, all in 477 genera. The count for this current version (#22) is 5,561 total species in 755 genera, with an additional 41 subspecies, 44 varieties, and 3 forms. The total species number includes 615 lichenicolous fungi (\*), 107 saprophytic fungi related to lichens or to lichenicolous fungi (+), and another 53 species of varying and/or uncertain biological status (#).

This list is updated at semi-regular intervals, usually about once every 12 to 18 months, as changes accumulate in the literature. I would appreciate being informed of any oversights or omissions, and although not all taxonomic or nomenclatural differences of opinion will be easily or immediately settled, any polite opinions that users would like to share will be welcomed and taken under consideration. Additions or changes appearing in this version of the checklist represent reports in the literature, and their presence here does not necessarily imply endorsement by the author. In addition to inviting comments or corrections, it would be very helpful if authors of publications containing additions to the North American lichen biota, or other taxonomic and nomenclatural changes that impact it, would provide me with copies. I owe thanks to the many colleagues who continue to provide suggested corrections and/or additions.

The first 20 versions of this checklist were published only online (Version #1 dated 1 December 1997 through Version #20 dated 19 April 2015). This version (Version #22, 29 January 2018) like the

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previous one (#21) is being simultaneously published here in Opuscula Philolichenum and online at the usual site hosted at North Dakota State University: <http://www.ndsu.edu/pubweb/~esslinge/chcklst/chcklst7.htm>. The purpose of dual publication is to provide a standard formatted journal article that can be cited, to assure permanent archiving of each version, and to facilitate dissemination of the checklist to those outside of the lichenological community via indexing services such as Scopus. Although there are minor organizational differences between the introductory sections of this and the online edition, the bodies of the two editions are identical except for indenting.

## CHECKLIST

### ABROTHALLUS De Not.

- \***acetabuli** Diederich (Kocourkova et al. 2012)
- \***bertianus** De Not.
- \***bryoriarum** Hafellner
- \***caerulescens** Kotte (Diederich 2003)
- \***cetrariae** Kotte (Goward et al. 1996)
- \***cladoniae** R. Sant. & D. Hawksw.
- \***eriodermæ** Suija, Etayo & Pérez-Ortega (Suija et al. 2015)
- \***ertzii** Suija, & Pérez-Ortega (Suija et al. 2015)
- \***halei** Pérez-Ortega, Suija, D. Hawksw. & R. Sant. (Suija et al. 2011)
- \***hypotrachynæ** Etayo & Diederich (Lendemer & Knudsen 2008b)
- \***microspermus** Tul. (Cole & Hawksworth 2001)
- \***nephromatis** Suija, & Pérez-Ortega (Suija et al. 2015)
- \***parmeliarum** (Sommerf.) Arnold
- \***peyritschii** (Stein) Kotte
- \***pezizicola** Diederich & R. C. Harris (Diederich 2003)
- \***prodiens** (Harm.) Diederich & Hafellner
- \***secedens** Wedin & R. Sant. (Spribille et al. 2010)
- \***suecicus** (Kirschst.) Nordin (Diederich 2003)
- \***tulasnei** M. S. Cole & D. Hawksw. (Cole & Hawksworth 2001)
- \***usneae** Rabenh. (Cole & Hawksworth 2001)
- \***welwitschii** Mont. ex Tul.
- \***oxysporus** Tul. = *Phacopsis oxyspora*
- \***usneae** auct. non Rabenh. = *Lichenostigma maureri*

### ABSCONDITELLA Vězda

- amabilis** T. Sprib. (Spribille et al. 2009)
- celata** Döbbeler & Poelt (Spribille et al. 2009)
- lignicola** Vězda & Pišút (Nash et al. 1998)
- sphagnorum** Vězda & Poelt
- trivialis** (Willey ex Tuck.) Vězda

### ACANTHOTHECIS Clem.

- aurantiaca** (Müll. Arg.) Staiger & Kalb Syns.: *Graphina intertexta*, *Graphis intertexta* (Staiger 2002)
- floridana** Lendemer & R. C. Harris (Lendemer & Harris 2014a)
- floridensis** F. Seavey & J. Seavey (Seavey et al. 2017)
- fontana** Muscavitch & Lendemer (Muscavitch & Lendemer 2016)
- gracilis** Staiger & Kalb (Staiger & Kalb 1999)
- leucopepla** (Tuck.) E. Tripp & Lendemer Syns.: *Graphis leucopepla*, *Graphina abaphoides* (Tripp et al. 2010)
- leucoxanthoides** Lendemer (Lendemer & Harris 2014a)
- mosquitensis** (Tuck.) E. Tripp & Lendemer Syns.: *Graphis mosquitensis*, *Graphina subvirginalis* (Tripp et al. 2010)
- paucispora** Lendemer & R. C. Harris (Lendemer & Harris 2014a)
- peplophora** (M. Wirth & Hale) E. Tripp & Lendemer Syn.: *Graphina peplophora* (Tripp et al. 2010)
- poitaeoides** (M. Wirth & Hale) E. Tripp & Lendemer Syn.: *Graphis poitaeoides* (Tripp et al. 2010)



abaphoides (Nyl.) Staiger & Kalb (Staiger & Kalb 1999) = *A. leucopepla*  
intertexta (Müll. Arg.) Staiger & Kalb = *A. aurantiaca*

**ACAROCONIUM** Kocourk. & D. Hawksw. (Kocourková & Hawksworth 2008)  
\***punctiforme** Kocourk. & D. Hawksw. (Kocourková & Hawksworth 2008)

**ACAROSPORA** A. Massal.

**affinis** K. Knudsen (Knudsen 2007a)  
**americana** H. Magn. (Knudsen et al. 2011b)  
**asahinae** H. Magn.  
**badiofusca** (Nyl.) Th. Fr. Syn.: *Sarcogyne athroocarpa* (Knudsen & Kocourková 2013)  
**boulderensis** H. Magn. (Knudsen et al. 2014b; McCune et al. 2014b)  
**brattiae** K. Knudsen (Knudsen 2007a)  
**brodoana** K. Knudsen, Kocourk. & M. Westb. (Knudsen et al. 2016)  
**brouardii** B. de Lesd. (Knudsen 2007a, Knudsen et al. 2008a)  
**calcareo** K. Knudsen (Knudsen 2007a)  
**canadensis** H. Magn.  
**cervina** A. Massal.  
**chrysops** (Tuck.) H. Magn. (Knudsen et al. 2008a)  
**clauzadeana** (Llimona) Casares & Hafellner Syn.: *Biatorella clauzadeana*  
**coloradiana** H. Magn.  
**complanata** H. Magn.  
**contigua** H. Magn. (Brodo et al. 2001, Knudsen 2007a)  
**elevata** H. Magn.  
**epilutescens** Zahlbr. (Knudsen 2005a)  
**erythrophora** H. Magn. (Knudsen 2007a)  
**fuscata** (Schrader) Arnold  
**fuscescens** H. Magn.  
**glaucocarpa** (Ach.) Körber  
**heufferiana** Körber  
**hilaris** (Dufour) Hue  
**impressula** Th. Fr.  
#**interjecta** H. Magn.  
**janae** K. Knudsen (Lumbsch et al. 2011)  
**maccarthyi** K. Knudsen & Kocourk. (Knudsen & Kocourková 2015)  
**macrospora** (Hepp) A. Massal. ex Bagl.  
**moenium** (Vainio) Räsänen (Nordin et al. 2009)  
**molybdina** (Wahlenb.) Trevisan  
#**nashii** K. Knudsen (Knudsen 2011a)  
**nevadensis** H. Magn.  
**nicolai** B. de Lesd. (Knudsen & Morse 2009)  
**nodulosa** (Dufour) Hue var. **nodulosa**  
**novomexicana** H. Magn. (Knudsen 2007a)  
**obnubila** H. Magn.  
**obpallens** (Nyl. ex Hasse) Zahlbr. Syn.: *Lecanora obpallens*  
**oligospora** (Nyl.) Arnold  
**orcuttii** K. Knudsen (Knudsen 2010 [2011])  
**oreophila** K. Knudsen (Knudsen 2007a)  
**peliscypha** Th. Fr.  
**piedmontensis** K. Knudsen (Knudsen et al. 2011b)  
**robiniae** K. Knudsen (Knudsen 2007a)  
**rosulata** (Th. Fr.) H. Magn. (Knudsen et al. 2010)  
**rouxii** K. Knudsen, Elix & Reeb (Knudsen 2007a, Knudsen et al. 2008a)  
**rugulosa** Körber  
**saepincola** H. Magn.  
**schleicheri** (Ach.) A. Massal.

**scotica** Hue  
**sinopica** (Wahlenb.) Körber  
**socialis** H. Magn.  
**sparsa** H. Magn.  
**sphaerosperma** R. C. Harris & K. Knudsen (Knudsen et al. 2011b)  
**#stapfiana** (Müll. Arg.) Hue  
**strigata** (Nyl.) Jatta  
**succedens** H. Magn.  
**superfusca** H. Magn. (Lendemer & Knudsen 2011)  
**thamnina** (Tuck.) Herre  
**thelococcoides** (Nyl.) Zahlbr. Syn.: *Lecanora thelococcoides*, *L. pleiospora*, *L. pleistospora*  
**toensbergii** K. Knudsen & Kocourk. (Knudsen & Kocourková 2017)  
**tongletii** Hue  
**tuckerae** K. Knudsen (Knudsen 2007a)  
**veronensis** A. Massal.  
*aeruginosa* Hasse = *Caeruleum heppii*  
*albida* H. Magn. = *A. epilutescens*  
*albomarginata* (Herre) G. Salisb. = *A. elevata* (Knudsen 2007a)  
*amabilis* H. Magn. = *A. socialis* (Knudsen 2007a)  
*amphibola* Wedd. = *Myriospora smaragdula*  
*amphibola* sensu auct. = *Myriospora rhagadiza*  
*applanata* H. Magn. = *A. veronensis* (Knudsen 2007a)  
*\*arenacea* H. Magn. = *Polysporina arenacea* (Knudsen & Kocourková 2008a)  
*arenosa* Herre = *Sarcogyne arenosa*  
*asperata* H. Magn. = *A. boulderensis* (Kocourková et al. 2014b)  
*bella* (Nyl.) Jatta = *A. rhabarbarina* (Knudsen et al. 2008a), but a misidentification for North America (Knudsen & Kocourková 2012a)  
*bullata* Anzi = misidentification for North America (Knudsen et al. 2010)  
*caesiofusca* (Müll. Arg.) H. Magn. = *A. nicolai*  
*californica* Zahlbr. = *A. badiofusca* (Knudsen 2007a)  
*carnegiei* Zahlbr. = *A. obpallens* (Knudsen 2005b)  
*cartilaginea* H. Magn. = *A. fuscata*  
*chlorophana* (Wahlenb.) A. Massal. = *Pleopsidium chlorophanum*  
*cineracea* (Nyl.) Wedd. = misidentification for North America  
*cinereoalba* (Fink) H. Magn. = *A. americana* (Knudsen et al. 2011b)  
*citrina* (Taylor) Zahlbr. = misidentification for North America (Knudsen & Flakus 2016)  
*desolata* H. Magn. = *Sarcogyne desolata*  
*dispersa* H. Magn. = *Trimmatothelopsis dispersa*  
*dissipata* H. Magn. = *A. schleicheri*  
*evoluta* H. Magn. = *A. socialis* (Knudsen 2007a)  
*flava* (Bellardi) Ach. = *Pleopsidium flavum*  
*gallica* H. Magn. = *A. janae* for North American reports (Knudsen et al. 2011b)  
*geogena* H. Magn. = *A. nodulosa* (Knudsen 2007a)  
*geophila* H. Magn. = *A. nodulosa*  
*glebosa* (Flotow) Körber = *A. oligospora*  
*hassei* Herre (Knudsen 2007a) = *Myriospora hassei* (Arcadia & Knudsen 2012)  
*heppii* (Nägeli ex Hepp) Nägeli ex Körber = *Caeruleum heppii*  
*immersa* Fink = *Caeruleum immersum*  
*incertula* H. Magn. = *A. novomexicana* (Knudsen 2007a)  
*instrata* H. Magn. = *A. obpallens* (Lendemer et al. 2008c)  
*intercedens* H. Magn. = *A. socialis* (Knudsen & Lendemer 2005b)  
*interposita* H. Magn. = *A. thamnina* (Knudsen 2007a)  
*interspersa* H. Magn. = *A. succedens* (Knudsen 2011a)  
*lapponica* (Ach. ex Schaerer) Th. Fr. = *Sarcogyne lapponica* (see note there)  
*\*lapponica* auct. N.A. = *Polysporina subfuscescens*  
*montana* H. Magn. = *A. rugulosa*

nigromarginata B. de Lesd. = *A. strigata* (Knudsen 2007a)  
 nitida H. Magn. (Weber & Wittman 2000) = *A. elevata* for North American records (Knudsen 2007a)  
 nodulosa (Dufour) Hue var. *reagens* Zahlbr. = *A. nodulosa*  
 obscura H. Magn. = *A. veronensis* (Knudsen 2007a)  
 ocellata H. Magn. = *A. schleicheri*  
 oxytona (Ach.) A. Massal. = *Pleopsidium flavum*  
 particularis H. Magn. = *Myriospora hassei* (Knudsen 2007a, Arcadia & Knudsen 2012)  
 peltastica Zahlbr. = *A. strigata* (Knudsen & Lendemer 2005b)  
 peltata Hasse = *A. strigata* (Knudsen 2007a)  
 pleiospora (Nyl.) Hasse. = *A. thelococcoides* (Lendemer 2004a)  
 pleistospore (Nyl.) Hasse = *A. thelococcoides* (Lendemer 2004a)  
 pyrenopsoides H. Magn. = misidentification for North America (Knudsen & Kocourková 2010a)  
 radicata H. Magn. = *A. socialis* (Knudsen & Lendemer 2005b)  
 reagens Zahlbr. = *A. nodulosa* (Knudsen 2007a)  
 rhubarbarina Hue (Knudsen et al. 2008a) = misidentification for North America (Knudsen & Kocourková 2012a)  
 rhagadiosa (Ach.) Th. Fr. = *Glypholecia scabra*  
 rimulosa H. Magn. = *A. socialis* (Knudsen 2007a)  
 rubicunda H. Magn. = *A. heufleriana* (Knudsen 2007a)  
 rufescens (Ach.) Bausch = *Myriospora smaragdula*  
 saxicola Fink = *Glypholecia scabra*  
 scabra (Pers.) Th. Fr. = *Glypholecia scabra*  
 scabrida Hedl. ex H. Magn. = *Myriospora scabrida*  
 smaragdula (Wahlenb.) A. Massal. = *Myriospora smaragdula*  
 smaragdula var. *lesdainii* (Harm. ex A.L. Smith) H. Magn. (Knudsen 2004a) = *Myriospora smaragdula*  
 squamulosa (Schrader) Trevisan = *A. macrospora* (Knudsen 2007a)  
 squamulosa sensu Th. Fr. = *A. macrospora*  
 stenospore (Stizenb.) Hue = *Pleopsidium flavum*  
 subalbida H. Magn. = *A. socialis* (Knudsen & Lendemer 2005b)  
 subcontigua H. Magn. = *A. schleicheri*  
 \*subfuscescens (Nyl.) H. Magn. = *Polysporina subfuscescens*  
 subrufula (Nyl.) H. Olivier (McCune et al. 1997) Report based on a specimen of *Myriospora smaragdula* (Knudsen 2007b)  
 superfusa H. Magn. = *A. americana* (Lendemer & Knudsen 2011, Knudsen et al. 2011b)  
 tenebrica H. Magn. = *A. veronensis* (Knudsen 2007a)  
 terricola H. Magn. = *Trimmatothelopsis terricola* (Knudsen & Lendemer 2016)  
 texana H. Magn. = *Pleopsidium chlorophanum*  
 thermophila Herre = *A. thamnina* (Knudsen 2007a)  
 tucsonensis H. Magn. = *A. obpallens* (Knudsen 2007a)  
 umbilicata Bagl. (Harris & Ladd 2005) North American records are *Acarospora nicolai* (Knudsen et al. 2011b)  
 utahensis H. Magn. = *A. strigata* (Knudsen & Lendemer 2005b)  
 variegata H. Magn. = *A. tongleti*  
 washingtonensis H. Magn. = *A. elevata* (Knudsen 2007a)  
 weldensis H. Magn. = *Pleopsidium chlorophanum*  
 xanthophana (Nyl.) Jatta = misidentification for North America (Knudsen 2008a)

#### **ACOLIUM** (Ach.) Gray (Prieto & Wedin 2017)

**chloroconium** Tuck. Syn.: *Cyphelium chloroconium*  
**inquinans** (Sm.) A. Massal. Syn.: *Cyphelium inquinans*  
**karelicum** (Vainio) M. Prieto & Wedin Syn.: *Cyphelium karelicum*  
 \***sessile** (Pers.) Arnold Syn.: *Calicium sessile*, *Cyphelium sessile*  
 carolinianum Tuck. = *Calicium carolinianum*  
 tympanellum (Ach.) Gray = *Acolium inquinans*

#### **ACREMONIUM** Link



\***strictum** W. Gams (Spribille et al. 2010)

**ACROCORDIA** A. Massal.\

**cavata** (Ach.) R. C. Harris Syn.: *Arthopyrenia cavata*

**conoidea** (Fr.) Körber Syn.: *Arthopyrenia conoidea*

**gemmata** (Ach.) A. Massal. Syn.: *Arthopyrenia gemmata*, *A. alba*, *A. sphaeroides* (Lendemer & Harris 2014b)

**megalospora** (Fink) R. C. Harris Syn.: *Arthopyrenia macrospora*, *A. finkii*, *Pyrenula megalospora*

**ACROSCYPHUS** Lév.

**sphaerophoroides** Lév.

**ACTINOGYRA** Schol. = **UMBILICARIA**

**muhlenbergii** (Ach.) Schol. = *Umbilicaria muhlenbergii*

**muhlenbergii** var. **alpina** (Tuck.) Llano = *Umbilicaria muhlenbergii*

**polyrrhiza** (L.) Schol. = *Umbilicaria polyrrhiza*

**ADELOCOCCUS** Theissen & Sydow

\***alpestris** (Zopf) Theissen & Sydow

**ADELOLECIA** Hertel & Hafellner

**kolaensis** (Nyl.) Hertel & Rambold Syn.: *Lecidea conferenda*

**pilati** (Hepp) Hertel & Hafellner Syn.: *Lecidea pilati*, *L. lyngeana*, *L. subauriculata* Lynge non B. de Lesd.

**sonorae** Hertel (Hertel 2004)

**AGONIMIA** Zahlbr.

**allobata** (Stizenb.) P. James (Fryday 2001)

**gelatinosa** (Ach.) M. Brand & Diederich Syn.: *Polyblastia gelatinosa* (Sérusiaux et al. 1999)

**opuntiella** (Buschardt & Poelt) Vězda (Lendemer 2004c)

**tristicula** (Nyl.) Zahlbr. Syn.: *Polyblastia tristicula*

**vouauxii** (B. de Lesd.) M. Brand & Diederich (Freebury 2014)

**AGRESTIA** J. W. Thomson = **CIRCINARIA**

**cyphellata** J. W. Thomson = *Circinaria hispida*

**hispida** (Mereschk.) Hale & W. L. Culb. = *Circinaria hispida*

**AGYRIUM** Fr.

\***rufum** (Pers.) Fr.

**AGYROPHORA** (Nyl.) Nyl. = **UMBILICARIA**

**leiocarpa** (DC.) Gyelnik = *Umbilicaria leiocarpa*

**lyngei** (Schol.) Llano = *Umbilicaria lyngei*

**rigida** (Du Rietz) Llano = *Umbilicaria rigida*

**scholanderi** Llano = *Umbilicaria scholanderi*

**AHLESIA** Fuckel = **THELOCARPON**

**sphaerospora** (H. Magn.) G. Salisb. = *Thelocarpon sphaerosporum*

**AHTIANA** Goward

**aurescens** (Tuck.) A. Thell & Randlane Syn.: *Cetraria aurescens*, *Tuckermannopsis aurescens* (Thell et al. 1995)

**pallidula** (Tuck. ex Riddle) Goward & A. Thell Syn.: *Cetraria pallidula*, *Tuckermannopsis pallidula* (Thell et al. 1995)

**sphaerosporella** (Müll. Arg.) Goward Syn.: *Parmelia sphaerosporella*

**AINOA** Lumbsch & I. Schmitt (Lumbsch et al. 2001)

**bella** Brodo & Lendemer (Brodo & Lendemer 2015)  
**mooreana** (Carroll) Lumbsch & I. Schmitt Misidentification for North America (Brodo & Lendemer 2015)

**ALBEMARLEA** Lendemer & R. C. Harris (Lendemer et al. 2016c)  
**pamlicoensis** Lendemer & R. C. Harris

**ALECTORIA** Ach.

**fallacina** Motyka  
**imshaugii** Brodo & D. Hawksw.  
**lata** (Taylor) Lindsay  
**ochroleuca** (Hoffm.) A. Massal.  
**sarmentosa** (Ach.) Ach.  
**sorediosa** (Lång ex Räsänen) McMullin & Lendemer (McMullin et al. 2016)  
**vancouverensis** (Gyelnik) Gyelnik ex Brodo & D. Hawksw.  
**vexillifera** (Nyl.) Stizenb. (McMullin et al. 2016)  
**abbreviata** (Müll. Arg.) R. Howe = *Nodobryoria abbreviata*  
**achariana** Gyelnik = *Bryoria pseudofuscescens*  
**altaica** (Gyelnik) Räsänen = *Bryoria nadvornikiana*  
**ambigua** Motyka = *Bryoria ambigua*  
**americana** Motyka = *Bryoria americana*  
**bicolor** (Ehrh.) Nyl. = *Bryoria bicolor*  
**boryana** Delise = *Gowardia nigricans*  
**californica** (Tuck.) G. Merr. = *Kaernefeltia californica*  
**cana** (Ach.) Leighton = *Bryoria pikei*  
**canadensis** Motyka = *Bryoria trichodes* subsp. *trichodes*  
**capillaris** (Ach.) Crombie = *Bryoria capillaris*, but N.A. records are *B. pikei* (Velmala et al. 2014)  
**cervinula** Motyka = *Bryoria cervinula*  
**cetrariza** Nyl. = *Kaernefeltia californica*  
**chalybeiformis** (L.) Gray = *Bryoria fuscescens*  
**corneliae** Gyelnik = *Bryoria fremontii*  
**delicata** Motyka = a nomen nudum = *Bryoria trichodes* subsp. *trichodes*  
**divergens** (Ach.) Nyl. = *Bryocaulon divergens*  
**fremontii** Tuck. = *Bryoria fremontii*  
**fuscescens** Gyelnik = *Bryoria fuscescens*  
**gowardii** Lumbsch (Lumbsch & Huhndorf 2010) = *Gowardia arctica*  
**glabra** Motyka = *Bryoria glabra*  
**haynaldii** Gyelnik = misidentification for North America  
**implexa** (Hoffm.) Nyl. = *Bryoria implexa*, a European species; N. A. records are *B. kockiana*  
**irvingii** Llano = *Bryoria nitidula*  
**jubata** (L.) Ach. Commonly confused and misused name applied to various pendent species of *Bryoria* (Brodo & Hawksworth 1977)  
**lanea** auct. non (Hoffm.) Vainio = *Bryoria nitidula*  
**lanestris** (Ach.) Gyelnik = *Bryoria fuscescens* (Velmala et al. 2014)  
**luteola** Mont. = *A. sarmentosa*  
**minuscula** (Nyl. ex Arnold) Degel. = *Pseudephebe minuscula*  
**nadvornikiana** Gyelnik = *Bryoria nadvornikiana*  
**nana** Motyka = a nomen nudum = *Bryoria simplicior*  
**nidulifera** Norrlin = *Bryoria furcellata*  
**nigricans** (Ach.) Nyl. = *Gowardia nigricans*  
**nitidula** (Th. Fr.) Vainio = *Bryoria nitidula*  
**norstictica** Motyka = a nomen nudum = *Bryoria pseudofuscescens*  
**oregana** Tuck. = *Nodobryoria oregana*  
**positiva** (Gyelnik) Motyka = *Bryoria fuscescens*  
**pseudofuscescens** Gyelnik = *Bryoria pseudofuscescens*  
**pubescens** (L.) R. Howe = *Pseudephebe pubescens*

sarmentosa subsp. vexillifera (Nyl.) D. Hawksw. = *A. vexillifera* (McMullin et al. 2016)  
 setacea (Ach.) Motyka = *Bryoria pikei* for North American records  
 simplicior (Vainio) Lynge = *Bryoria simplicior*  
 stigmata Bystrek = *A. sarmentosa*  
 subcana (Nyl. ex Stizenb.) Gyelnik = *Bryoria fuscescens* (Velmala et al. 2014)  
 subdivergens E. Dahl = *Nodobryoria subdivergens*  
 subsarmentosa Stirton = *A. sarmentosa*  
 subtilis Motyka = a nomen nudum = *Bryoria pseudofuscescens*  
 tenerrima Motyka = *Bryoria fremontii*  
 tenuis E. Dahl = *Bryoria tenuis*  
 thrausta Ach. = *Ramalina thrausta*  
 tortuosa G. Merr. = *Bryoria fremontii*  
 virens auct. = *Bryoria fremontii* for North American records

#### **ALLANTOPARMELIA** (Vainio) Essl.

**almquistii** (Vainio) Essl. Syn.: *Parmelia almquistii*  
**alpicola** (Th. Fr.) Essl. Syn.: *Parmelia alpicola*  
**sibirica** (Zahlbr.) Essl. (Spribille et al. 2009a)

#### **ALLARTHONIA** (Nyl.) Zahlbr.

**caesia** Flotow = *Chrysothrix caesia*

#### **ALLOCALICIUM** M. Prieto & Wedin (Prieto & Wedin 2017)

**adaequatum** (Nyl.) M. Prieto & Wedin Syn.: *Calicium adaequatum*, *C. hemisphaericum*

#### **ALLOCETRARIA** Kurokawa & Lai

**madreporiformis** (Ach.) Kärnefelt & A. Thell Syns.: *Dactylina madreporiformis*, *Dufourea madreporiformis* (Kärnefelt & Thell 1996)  
**stracheyi** (Bab.) Kurok. & M. J. Lai (Thell et al. 2009)  
 cucullata (Bellardi) Randlane & Saag = *Flavocetraria cucullata*  
 nivalis (L.) Randlane & Saag = *Flavocetraria nivalis*  
 oakesiana (Tuck.) Randlane & A. Thell = *Usnocetraria oakesiana*

#### **ALYXORIA** Ach. (Ertz & Tehler 2011)

**bicolor** (R. C. Harris & Lendemer) Ertz & Tehler (Ertz & Tehler 2011) Syn.: *Opegrapha bicolor*  
**mougeotii** (A. Massal.) Ertz, Frisch & G. Thor Syn.: *Opegrapha mougeotii* (Frisch et al. 2014)  
**ochrocheila** (Nyl.) Ertz & Tehler (Ertz & Tehler 2011) Syn.: *Opegrapha ochrocheila*  
**varia** (Pers.) Ertz & Tehler (Ertz & Tehler 2011) Syns.: *Opegrapha diaphora*, *O. varia*

#### **AMANDINEA** M. Choisy ex Scheid. & H. Mayrhofer

**\*adjuncta** (Th. Fr.) Hafellner Syn.: *Buellia adjuncta* (Hafellner 2004b)  
**cacuminum** (Th. Fr.) H. Mayrhofer & Sheard Syn.: *Rinodina cacuminum* (Mayrhofer & Sheard 2002)  
**coniops** (Wahlenb.) M. Choisy ex Scheid. & H. Mayrhofer Syn.: *Buellia coniops*  
**dakotensis** (H. Magn.) P. May & Sheard Syns.: *Rinodina dakotensis*, *R. finkii*, *R. inaequalis*, *R. pennsylvanica*, *R. pyriniformis*, *R. subplumbea*, *R. subpyriniformis*. (Sheard & May 1997)  
**efflorescens** (Müll. Arg.) Marbach (Marbach 2000)  
**endachroa** (Malme) Marbach (Lücking et al. 2011bb)  
**langloisii** Imshaug ex Marbach (Marbach 2000) Syn.: *Buellia langloisii*  
**leucomela** (Imshaug) P. May & Sheard Syns.: *Buellia leucoemela* (Sheard & May 1997)  
**lignicola** Tønsberg & Nordin (Tønsberg et al. 2012)  
**milliaria** (Tuck.) P. May & Sheard Syn.: *Rinodina milliaria* (Sheard & May 1997)  
**polyspora** (Willey) E. Lay & P. May Syn.: *Buellia polyspora*, *Buellia punctata* var. *polyspora* (Sheard & May 1997)  
**punctata** (Hoffm.) Coppins & Scheid. Syn.: *Buellia punctata*, *B. myriocarpa*  
**subduplicata** (Vainio) Marbach (Marbach 2000)  
**submontana** Marbach (Marbach 2000)



insperata (Nyl.) H. Mayrhofer & Sheard (Lendemer et al. 2008c) = *Orcularia insperata* (Kalb & Giralt 2012)  
placodiomorpha (Vainio) Marbach (Marbach 2000) = *Orcularia placodiomorpha* (Kalb & Giralt 2012)  
turgescens (Nyl.) Marbach (Marbach 2000) = *Buellia badia* (Bungartz & Nash 2004c)

**AMELIELLA** Fryday & Coppins (Fryday & Coppins 2008)  
**andreaeicola** Fryday & Coppins

**AMEROCONIUM** U. Braun & Zhurb.  
**\*cladoniae** U. Braun & Zhurb. (Zhurbenko & Braun 2013)

**AMPHILOMA** Nyl.  
lanuginosum (Hoffm.) Nyl. = *Lepraria membranaceum*

**AMPHISPHAERIA** Ces. & De Not.  
**+bufonia** (Berk. & Broome) Ces. & De Not. (Perlmutter et al. 2017)

**AMPLIOTREMA** Kalb ex Kalb  
**auratum** (Tuck.) Kalb ex Kalb (Seavey et al. 2014)

**AMYGDALARIA** Norman  
**consentiens** (Nyl.) Hertel, Brodo & Mas. Inoue  
**continua** Brodo & Hertel  
**elegantior** (H. Magn.) Hertel & Brodo Syns.: *Huilia elegantior*, *Lecidea elegantior*  
**haidensis** Brodo & Hertel  
**panaeola** (Ach.) Hertel & Brodo Syns.: *Lecidea panaeola*, *Huilia panaeola*  
**pelobotryon** (Wahlenb.) Norman Syns.: *Lecanora pelobotrya*, *Aspicilia pelobotrya*, *Lecidea pelobotrya*, L. "pelobotrion"  
**subdissentiens** (Nyl.) Mas. Inoue & Brodo

**ANAMYLOPSORA** Timdal  
**pulcherrima** (Vainio) Timdal Syns.: *Lecidea pulcherrima*, *Psora pulcherrima*

**ANAPTYCHIA** Körber  
**bryorum** Poelt  
**crinalis** (Schaerer) Vězda (Esslinger 2007)  
**elbursiana** (Szatala) Poelt (Esslinger 2002a) Syn.: *Physconia thomsonii*  
**palmulata** (Michaux) Vainio  
**ulothricoides** (Vainio) Vainio  
appalachensis Kurok. = *Heterodermia appalachensis*  
aquila (Ach.) A. Massal. North American records = *A. palmulata*  
boryi (Feé) A. Massal. = *Heterodermia boryi*  
casarettiana A. Massal. = *Heterodermia casarettiana*  
chondroidea (W. A. Weber & D. D. Awasthi) Kurok. = *Heterodermia chondroidea*  
ciliaris (L.) Körber = misidentification for North America  
comosa (Eschw.) A. Massal. North American records = *Heterodermia galactophylla*  
corallophora (Taylor) Lynge = *Heterodermia crocea* (for North American records)  
dendritica (Pers.) Vainio = *Heterodermia dendritica*  
diademata (Taylor) Kurok. = *Heterodermia diademata*  
domingensis (Ach.) A. Massal. = *Heterodermia albicans*  
echinata (Taylor) Kurok. = *Heterodermia echinata*  
erinacea (Ach.) Trevisan = *Heterodermia erinacea*  
galactophylla (Tuck.) Trevisan = *Heterodermia galactophylla*  
granulifera (Ach.) A. Massal. = *Heterodermia granulifera*  
heterochroa Vainio = *Heterodermia obscurata*  
hypoleuca (Muhl.) A. Massal. = *Heterodermia hypoleuca*

hypoleuca (Muhl.) A. Massal. var. colorata Zahlbr. = *Heterodermia obscurata*  
 isidiza Kurok. (Yoshimura & Sharp 1973) = *A. isidiata* Tomin, but a misidentification for North America (Esslinger 2007)  
 kaspica Gyelnik = *A. setifera*, but North American reports are *A. crinalis*  
 leucomela (L.) A. Massal. = *Heterodermia leucomela*  
 "leucomelaena" auct. = *Heterodermia leucomela*  
 major (Nyl.) Vainio = misidentification for North America  
 neoleucomelaena Kurok. = *Heterodermia boryi*  
 obscurata (Nyl.) Vainio = *Heterodermia obscurata*  
 "palmatula" auct. = *A. palmulata*  
 pseudospeciosa Kurok. = *Heterodermia pseudospeciosa*  
 pseudospeciosa Kurok. var. tremulans (Müll. Arg.) Kurok. = *Heterodermia speciosa*  
 ravenelii (Tuck.) Zahlbr. = *Heterodermia albicans*  
 setifera Räsänen North American reports are *A. crinalis*  
 sorediifera (Müll. Arg.) Du Rietz & Lynge = *Heterodermia obscurata*  
 speciosa (Wulfen) A. Massal. = *Heterodermia speciosa*  
 squamulosa Degel. = *Heterodermia squamulosa*  
 stippea (Ach.) Nadv. = *A. bryorum*  
 tropica Kurok. = *Heterodermia tropica*  
 wrightii (Tuck.) Zahlbr. North American report (Tuckerman 1882) is *Heterodermia diademata* (Esslinger & Tucker 2009)

**ANDREIOMYCES** Hodkinson & Lendemer (Hodkinson & Lendemer 2013)

**morozianus** (Lendemer) Hodkinson & Lendemer Syn.: *Lepraria morozianus*

**ANEMA** Nyl. ex Forssell

**progidulum** (Nyl.) Henssen (Schultz 2002a)  
 dodgei Herre = *Heppia despreauxii* (Schultz 2007b)  
 jensejensis H. Magn. = misidentification for North America

**ANISOMERIDIUM** (Müll. Arg.) M. Choisy

**albisedum** (Nyl.) R. C. Harris Syn.: *Ditremis albiseda*  
**ambiguum** (Zahlbr.) R. C. Harris Syn.: *Arthopyrenia ambigua*, *Ditremis ambigua*  
**anisolobum** (Müll. Arg.) Aptroot Syn.: *Arthopyrenia anisoloba*, *Ditremis anisoloba*  
**aureopunctatum** R. C. Harris Syn.: *Ditremis macrospora* R. C. Harris non Makhija & Patwardhan (Harris 1995a)  
**biforme** (Borrer) R. C. Harris Syn.: *Arthopyrenia biformis*, *A. parvula*, *A. conformis* auct. N. Am., *Ditremis biformis*, *Trimmatothela umbellulariae*  
**biformoides** R. C. Harris (Harris 1995a)  
**carinthiacum** (J. Steiner) R. C. Harris Syn.: *Arthopyrenia carinthiaca*, *A. dimidiata*, *Ditremis carinthiaca*  
**distans** (Willey) R. C. Harris Syn.: *Arthopyrenia distans*, *Ditremis distans*  
**excaecariae** (Müll. Arg.) R. C. Harris Syn.: *A. sanfordense*, *Arthopyrenia sanfordensis*, *Ditremis sanfordensis* (Harris 1995a)  
**finkii** (R. C. Harris) R. C. Harris Syn.: *Ditremis finkii* (Harris 1995a)  
**griffinii** R. C. Harris (Harris 1995a)  
**leucochlorum** (Müll. Arg.) R. C. Harris Syn.: *Arthopyrenia leucochlora*, *Ditremis leucochlora* [*Ditremis macrospora* R. C. Harris]  
**phaeospermum** R. C. Harris (Harris 1995a)  
**polypori** (Ellis & Everh.) M. E. Barr Syn.: *Ditremis nyssigena*, *Arthopyrenia willeyana* (Barr et al. 1996)  
**quadricoccum** R. C. Harris (Harris 1995a, Aptroot 1997)  
**quaternarium** (R. C. Harris) R. C. Harris Syn.: *Ditremis quaternaria* (Harris 1995a)  
**subnexum** (Nyl.) R. C. Harris (Lücking et al. 2011b)  
**subprostans** (Nyl.) R. C. Harris Syn.: *Arthopyrenia subprostans*, *Ditremis subprostans*, *Pyrenula subprostans*.

**tamarindi** (Fée) R. C. Harris Syn.: *Ditremis tamarindi*.  
**terminatum** (Nyl.) R. C. Harris Syn.: *Ditremis terminata*, *Pleurotrema anacardii*, *Arthopyrenia anacardii* (Harris 1995a)  
**tuckerae** R. C. Harris Syn.: *Ditremis tuckerae*.  
*feeanum* (Müll. Arg.) R. C. Harris = *A. anislobum*  
*juistense* (Erichsen) R. C. Harris = *A. polypori*  
*nyssigenum* (Ellis & Everh.) R. C. Harris = *A. polypori*  
*sanfordense* (Zahlbr.) R. C. Harris = *Anisomeridium excaecariae*

**ANOMALOBARIA** B. Moncada & Lücking (Moncada et al. 2013) = **LOBARIA** (McCune et al. 2014b; Miadlikowska et al. 2014a)

*anomala* (Brodo & Ahti) B. Moncada & Lücking = *Lobaria anomala* (McCune et al. 2014b)  
*anthraspis* (Ach.) B. Moncada & Lücking = *Lobaria anthraspis* (McCune et al. 2014b)

**ANOMOMORPHA** Nyl.

**turbulenta** (Nyl.) Hue Syn.: *Graphis turbulenta* (Staiger 2002)

**ANTHRACOTHECIUM** Hampe ex A. Massal.

**australiensis** (Müll. Arg.) Aptroot (Aptroot 2012)  
**pachycheilum** (Tuck.) Zahlbr. Syn.: *Pyrenula pachycheila* (Tuckerman 1872)  
**prasinum** (Eschw.) R. C. Harris  
**staurosporum** (Tuck. ex Willey) Zahlbr.  
*canellae-albae* (Fée) Müll. Arg. = *Sulcopyrenula canellae-albae*  
*corticatum* Müll. Arg. = *Pyrenula confinis*  
*falsarium* Zahlbr. = *Pyrenula schiffneri*  
*leucostomum* (Ach.) Malme = *Pyrenula leucostoma*  
*libricola* (Fée) Müll. Arg. = probable misidentification for North American  
*maculare* Zahlbr. = *Pyrenula breutelii*  
*mucosum* (Vainio) Zahlbr. = probable misidentification for North American  
*nanum* (Zahlbr.) R. C. Harris = *A. australiensis*  
*ochraceoflavens* (Nyl.) Zahlbr. = *Pyrenula ochraceoflavens*  
*ochraceoflavum* (Nyl.) Müll. Arg. = *Pyrenula ochraceoflava*  
*pauciloculare* Herre = identity uncertain  
*pyrenuloides* (Mont.) Müll. Arg. = *Pyrenula pyrenuloides*  
*subglobosum* Riddle = *Sulcopyrenula subglobosa*  
*thelomorphum* (Tuck.) Zahlbr. = *Pyrenula thelomorpha*  
*varians* R. C. Harris = *Pyrenula novemseptata*

**ANZIA** Stizenb.

**americana** Yoshim. & Sharp  
**colpodes** (Ach.) Stizenb. Syn.: *Parmelia colpodes*  
**ornata** (Zahlbr.) Asahina

**ANZINA** Scheid.

**carneonivea** (Anzi) Scheid. (Goward et al. 1996)  
**carneonivea** var. **tetraspora** Scheid. (Spribille et al. 2010)

**APATOPLACA** Poelt & Hafellner = **CALOPLACA**

*oblongula* (H. Magn.) Poelt & Hafellner = *Caloplaca oblongula*

**ARCTOCETRARIA** Kärnefelt & A. Thell

**andrejevii** (Oxner) Kärnefelt & A. Thell Syn.: *Cetraria andrejevii*, *C. simmonsii*  
**nigricascens** (Nyl.) Kärnefelt & A. Thell Syn.: *Cetraria nigricascens*, *C. elenkinii*, *C. sibirica*

**ARCTOMIA** Th. Fr.



**delicatula** Th. Fr.  
**interfixa** (Nyl.) Vainio

#### **ARCTOPARMELIA** Hale

**centrifuga** (L.) Hale Syns.: *Parmelia centrifuga*, *P. aleuritica*, *Parmelia halseyana*, *Xanthoparmelia centrifuga*  
**incurva** (Pers.) Hale Syns.: *Parmelia incurva*, *Xanthoparmelia incurva*  
**separata** (Th. Fr.) Hale Syns.: *Parmelia separata*, *P. birulae* var. *grumosa*, *Xanthoparmelia separata*  
**subcentrifuga** (Oxner) Hale Syns.: *Parmelia subcentrifuga*, *Xanthoparmelia subcentrifuga*  
*aleuritica* (Nyl.) Hale = *A. centrifuga*

#### **ARCTOPELTIS** Poelt

**thuleana** Poelt

#### **ARRHENIA** Fr.

\***peltigerina** (Peck) Redhead, Lutzoni, Moncalvo & Vilgalys Syn.: *Omphalina peltigerina* (Redhead et al. 2002)

#### **ARTHONIA** Ach.

\***agelastica** [R. C. Harris & Lendemer \(Lendemer et al. 2016c\)](#)  
**albofuscescens** Tuck.  
+**albopulverea** Nyl. (Grube 2007)  
**albovirescens** Nyl. Syn.: *Arthothelium albovirescens*  
**aleuromela** Nyl.  
\***almquistii** Vainio (Zhurbenko 2013)  
**anglica** Coppins (Hodkinson et al. 2009, Lendemer et al. 2009c)  
\***anjutii** S. Y. Kondr. & Alstrup (Kondratyuk 1996)  
**antillarum** (Fée) Nyl. (Lücking et al. 2011b)  
**apatetica** (A. Massal.) Th. Fr.  
**arthonioides** (Ach.) A. L. Sm.  
**asteriscus** Müll. Arg.  
**atomaria** (Lynge) R. Kiliass  
**atra** (Pers.) A. Schneider (Ertz et al. 2009) Syn.: *Opegrapha atra*  
**atrata** (Fée) Müll. Arg.  
+**beccariana** (Bagl.) Stizenb. (Grube 2007)  
\***biatoricola** Ihlen & Owe-Larsson (Ihlen et al. 2004b)  
**calcareia** (Turner ex Sm.) Ertz & Diederich (Ertz et al. 2009) Syn.: *Opegrapha calcarea*  
**caribea** (Ach.) A. Massal.  
+**caudata** Willey  
\***ceracea** Etayo & Breuss (Etayo & Breuss 1998)  
**cinereopruinosa** Schaerer  
**cinnabarina** (DC.) Wallr.  
\***circinata** Th. Fr. (Vilella & Sheehy 2015)  
\***clemens** (Tul.) Th. Fr.  
\***colombiana** Etayo (Lendemer & Harris 2012)  
**compensata** Nyl. (Hansen & Dute 2005)  
**compensatula** Nyl. (Seavey & Seavey 2012)  
**complanata** Fée  
**conferta** (Fée) Nyl.  
\***coronata** Etayo (Lendemer & Harris 2012)  
**cupressina** Tuck.  
**cyrtodes** Nyl. (Lendemer et al. 2009c)  
+**cytisi** A. Massal.  
**dictyospora** [\(Coppins & P. James\) McCune \(McCune 2017\)](#)  
**didyma** Körber  
**diffusa** Nyl.

**diffusella** Fink  
**\*digitatae** Hafellner (Knudsen & Lendemer 2007)  
**\*diploiciae** Calat. & Diederich (Grube 2007, Lendemer et al. 2009b)  
**dispersa** (Schrader) Nyl.  
**dispersula** Nyl.  
**eckfeldtii** Müll. Arg.  
**\*epicladonia** (Nyl.) Alstrup & Zhurb. (Zhurbenko & Alstrup 2004)  
**\*epimela** (Almq.) I. M. Lamb (Goward et al. 1996)  
**\*epiphyscia** Nyl.  
**erubescens** Willey  
**erupta** Nyl.  
**excedens** Nyl.  
**\*excentrica** Th. Fr. (Hafellner et al. 2002)  
**exilis** (Flörke) Anzi  
**\*farinacea** (H. Olivier) R. Sant. (Diederich 2003)  
**fissurinea** Nyl.  
**floridana** Willey  
**fuliginosa** (Schaerer) Flotow  
**\*fuscopurpurea** (Tul.) R. Sant. (Alstrup & Cole 1998)  
**\*gelidae** R. Sant. (Spribille et al. 2010)  
**gerhardii** Egea & Torrente (Grube 2007)  
<sup>+</sup>**glaucella** Nyl. (Grube 2007)  
**glebosa** Tuck.  
**granosa** B. de Lesd.  
**gutberletiana** Lendemer & D. Ray (Lendemer & Ray 2017)  
**gyalectoides** Müll. Arg.  
**hamamelidis** Nyl.  
**helvola** (Nyl.) Nyl. (Harris 1977)  
**\*hodgesii** Lendemer & R. C. Harris (Lendemer et al. 2016c)  
**hypochniza** Nyl. (Seavey et al. 2017)  
**hypobela** (Nyl.) Zahlbr.  
**ilicina** Taylor Syn.: *Arthothelium ilicinum*  
**impallens** Nyl.  
**incarnata** Th. Fr. ex Almq.  
**infectans** Egea & Torrente (Egea & Torrente 1995)  
**interveniens** Nyl. Syn.: *Arthothelium interveniens* (Lücking et al. 2011b)  
**\*intexta** Almq.  
**kermesina** R. C. Harris, E. Tripp & Lendemer (Lendemer et al. 2013)  
**lapidicola** (Taylor) Branth & Rostrup  
**lecanactidea** Zahlbr.  
**\*lecanorina** (Almq.) Grube (Grube 2007)  
**\*lethariicola** Alstrup & M. S. Cole (Alstrup & Cole 1998)  
**leucastraea** Tuck.  
**ligniariella** Coppins (Spribille & Björk 2008)  
**\*linitae** R. Sant. (Esslinger & Egan 1995)  
**luridoalba** Nyl.  
**macounii** G. Merr. (Kocourková et al. 2008) Syn.: *Arthothelium macounii*  
**macrotheca** Fée (Lücking et al. 2011b) Syn.: *Arthothelium macrothecum*  
**madreana** Egea & Torrente (Egea & Torrente 1995)  
**mediella** Nyl.  
**mesoleuca** Nyl. (Lücking et al. 2011b)  
**microsperma** Nyl. (Seavey et al. 2017)  
**microspERMella** Willey  
**mirabilis** Grube (Lücking et al. 2011b)  
**\*molendoi** (Heufl. ex Frauenf.) R. Sant. (Alstrup & Cole 1998; Hafellner et al. 2002)  
**neoni** B. de Lesd.

**\*nephromaria** (Nyl.) Nyl. ex H. Olivier  
**norvegica** (Coppins & Tønsberg) McCune (McCune 2017)  
**ochrocincta** Willey  
**ochrodiscodes** Nyl.  
**ochrolutea** Nyl.  
**ochrospila** Nyl. (Seavey & Seavey 2012)  
**oxytera** Nyl. (Fink 1935, Esslinger & Tucker 2009)  
**palmulacea** (Müll. Arg.) R. Sant.  
**patellulata** Nyl.  
**\*peltigerea** Th. Fr. (Hafellner et al. 2002)  
**\*peltigerina** (Almq.) H. Olivier  
**perminuta** Willey  
**phaeobaea** (Norman) Norman  
**\*phaeophysciae** Grube & Matzer (Hafellner et al. 2002)  
**phlyctiformis** Nyl. subsp. **californica** Grube (Grube 2007)  
**+pinastri** Anzi  
**platygraphidea** Nyl.  
**platyspilea** Nyl.  
**polygramma** Nyl.  
**polymorpha** Ach.  
**\*protoparmeliopseos** Etayo & Diederich (Kocourková & Knudsen 2015)  
**+pruinascens** (Zahlbr.) Grube (Grube 2007) Syn.: *Arthothelium pruinascens*  
**+pruinoseella** Nyl. (Grube 2007)  
**pruinoseula** Nyl.  
**pseudostromatica** F. Seavey & J. Seavey (Seavey et al. 2017)  
**punctiformis** Ach.  
**pyrrhuliza** Nyl.  
**+quintaria** Nyl.  
**radiata** (Pers.) Ach.  
**ravenelii** Tuck.  
**redingeri** Grube (Grube 2007)  
**reniformis** (Pers.) Ach.  
**+rhoidis** Zahlbr. (Grube 2007)  
**rubella** (Fée) Nyl.  
**rubrocincta** G. Merr. ex Grube & Lendemer (Grube & Lendemer 2009)  
**rupicola** Fink  
**samdykeana** Lendemer & D. Ray (Lendemer & Ray 2017)  
**+sanguinea** Willey (Grube 2007) Syn.: *Arthothelium sanguineum*  
**septiseptella** Nyl. (Fink 1935, Esslinger & Tucker 2009)  
**+sexlocularis** Zahlbr. (Grube 2007)  
**siderea** Degel.  
**simplicascens** Nyl. (Lücking et al. 2011b)  
**spadicea** Leighton  
**speciosa** (Müll. Arg.) Grube (Grube 2007)  
**stellaris** Kremp.  
**\*stereocaulina** (Ohlert) R. Sant. (Zhurbenko 2010)  
**stevensoniana** R. C. Harris & Lendemer (Lendemer et al. 2016c)  
**+subastroidea** Anzi (McMullin et al. 2017)  
**subastroidella** Nyl.  
**subdiffusa** Willey  
**subdispuncta** Nyl.  
**\*subfuscicola** (Lindsay) Triebel  
**subminutissima** Nyl.  
**subminutula** Nyl.  
**subrubella** Nyl.  
**susa** R. C. Harris & Lendemer Syn.: *Arthothelium taediosum* auct. N.A. (Lendemer et al. 2013)



**taedescens** Nyl.  
**\*tavaresii** Grube & Hafellner (Seavey et al. 2017)  
**terrigena** Nyl.  
**+tetramera** (Stizenb.) Hasse (Grube 2007)  
**torulosa** Fée  
**tuckermaniana** Willey  
**varia** (Ach.) Nyl.  
**\*varians** (Davies) Nyl. Syn.: *Celidium varians* (Hawksworth 2003)  
**vernans** Willey  
**vinosa** Leighton  
**viridicans** Willey  
**\*xanthoparmeliarum** Etayo (Kocourková 2009)  
**xylographica** Nyl.  
 alba Müll. Arg. = *a Stirtonia* sp.  
 aspersa Leighton = *A. arthonioides*  
 atractospora Zahlbr. = *Naetrocymbe atractospora*  
 biseptata Degel. = *Mycoporum biseptatum* (Lendemer & Harris 2014c)  
 byssacea (Weigel) Almq. = *Inoderma byssaceum* (Weigel) Gray (Frisch et al. 2015)  
 caesia (Flotow) Körber = *Chrysothrix caesia*  
 carneorufa Willey = *Catillaria erysiboides*  
 chiodectella Nyl. = *Pachnolepia pruinata* (Grube 2007)  
 convexella Nyl. = a non-lichenized fungus (*Mycoporum* sp.?)  
 epipastoides auct. N.A. non Nyl. = *A. glaucella* (Grube 2007)  
 fusca (A. Massal.) Hepp = *A. lapidicola*  
 galactitella Nyl. = *A. glaucella* (Grube 2007)  
 glaucescens Nyl. = *Schismatomma glaucescens*  
 glaucomaria (Nyl.) Nyl. = *A. varians* (Hawksworth 2003)  
 gregaria (Weigel) Körber = *A. cinnabarina*  
 gregarina Willey = *Coniarthonia gregarina*  
 impolita (Hoffm.) Borrer = *Pachnolepia pruinata*  
 lecideella Nyl. ex Willey = *Chrysothrix caesia* (Lendemer 2008)  
 leucodontis (Poelt & Döbb.) Coppins = *Bryostigma muscigena*  
 leucopellaea (Ach.) Almq. = *Felipes leucopellaeus* (Frisch et al. 2014)  
 lurida Ach. nom. rej. = *A. spadicea*  
 melaspora Tuck. = *Sporostigma melaspora* (Grube 2001)  
 montagnei (Tuck.) R. C. Harris = uncertain species of *Cryptothecia*? (Lücking et al. 2011b)  
 muscigena Th. Fr. = *Bryostigma muscigena*  
 pruinata (Pers.) Steud. ex A. L. Sm. (Grube 2007) = *Pachnolepia pruinata* (Frisch et al. 2014)  
 pyrrhula Nyl. = *Coniarthonia pyrrhula*  
 ruana A. Massal. = *Arthothelium ruanum*  
 spectabilis Flotow = *Arthothelium spectabile*  
 +stictella Stizenb. = *A. albopulverea* (Grube 2007)  
 taediosa Nyl. North American reports are *Arthonia susa* (Lendemer et al. 2013)  
 tremelloides Etayo Erroneously listed here; reported only from Mexico (Grube 2007)  
 tumidula (Ach.) Ach. = *A. cinnabarina*  
 verrucosa Egea & Torrente Erroneously listed here; reported only from Mexico (Grube 2007)  
 willeyi Tuck. = *A. diffusa* (Lendemer 2004a)

#### ARTHOPHACOPSIS Hafellner

**\*parmeliarum** Hafellner (Diederich 2003, Zhurbenko & Laursen 2003)

#### ARTHOPYRENIA A. Massal.

**+analepta** (Ach.) A. Massal. (Harris 1995a, Aptroot 2002a) Syn.: *Polyblastiopsis fallax*  
**betulicola** R. C. Harris, E. Tripp & Lendemer (Harris et al. 2014)  
**cerasi** (Schrader) A. Massal.  
**cinereopruinosa** (Schaerer) A. Massal.

**degelii** R. C. Harris (Harris 1995a)  
**esenbeckiana** (Fée) R. C. Harris (Harris 1995a)  
**exasperata** R. C. Harris (Harris 1995a)  
**minor** R. C. Harris  
**oblongens** R. C. Harris (Harris 1995a)  
<sup>+</sup>**plumbaria** (Stizenb. ex Hasse) R. C. Harris Syns.: *Porina plumbaria*, *Pyrenula herrei*  
**rappii** Zahlbr.  
<sup>+</sup>**subcerasi** (Vainio) Zahlbr. (Spribille et al. 2010)  
**taxodii** R. C. Harris (Harris 1995a)  
<sup>\*</sup>**texensis** (Cooke) D. Hawksw.  
*affinis* (A. Massal.) R. C. Harris = *Strigula affinis* North American records are *S. jamesii*  
*alba* (Schrader) Zahlbr. = *Acrocordia gemmata*  
*ambigua* Zahlbr. = *Anisomeridium ambiguum*  
*anacardii* Vainio = *Anisomeridium terminatum*  
*analeptella* (Nyl.) Arnold = misidentification for North America  
*anisoloba* Müll. Arg. = *Anisomeridium anisoloba*  
*antecellens* (Nyl.) Arnold = *Mycoporum antecellens*  
*atomarioides* Müll. Arg. = *Naetrocymbe atomarioides*  
*atractospora* Zahlbr. = *Naetrocymbe atractospora*  
*bifera* Zahlbr. = *A. malaccitula*  
*biformis* (Borrer) A. Massal. = *Anisomeridium biforme*  
*bryospila* (Nyl.) Arnold = *Collemopsidium bryospilum*  
*carinthiaca* J. Steiner = *Anisomeridium carinthiacum*  
*cavata* (Ach.) R. C. Harris = *Acrocordia cavata*  
*cinchonae* (Ach.) Müll. Arg. = *Constrictolumina cinchonae*  
*confluens* R. C. Harris (Harris 1995a) = *Constrictolumina leucostoma*  
*conformis* (Nyl.) Müll. Arg. = misidentification for North America, mostly *Anisomeridium biforme*  
*conoidea* (Fr.) Zahlbr. = *Acrocordia conoidea*  
*dimidiata* Fink = *Anisomeridium carinthiacum*  
*distans* (Willey) Zahlbr. = *Anisomeridium distans*  
*epidermidis* (DC.) A. Massal. = *Naetrocymbe punctiformis*  
*faginea* (Schaerer) Swinscow = *Strigula stigmatella*  
*fallax* (Nyl.) Arnold = *A. analepta*  
*finkii* Zahlbr. = *Acrocordia megalospora*  
*floridana* Zahlbr. = *Naetrocymbe atomarioides*  
*fraxini* A. Massal. = *Naetrocymbe fraxini*  
*gemmata* (Ach.) A. Massal. = *Acrocordia gemmata*  
*halodytes* (Nyl.) Arnold = *Collemopsidium halodytes*  
*hyalospora* (Nyl.) Fink = *Lithothelium hyalosporum*  
*lapponina* Anzi = *A. analepta*  
*leucochlora* Müll. Arg. = *Anisomeridium leucochlorum*  
*litoralis* (Leighton) Arnold (Fink 1935) = *Collemopsidium sublitorale* (Santesson et al. 2004)  
*lyrata* R. C. Harris = *Constrictolumina lyrata*  
*macrocarpa* (Körber) Zahlbr. = misidentification for North America  
*macrospora* Fink = *Acrocordia megalospora*  
*majuscula* (Nyl.) Zahlbr. = *Constrictolumina majuscula*  
*malaccitula* (Nyl.) Zahlbr. = *Constrictolumina malaccitula*  
*megalospora* Lonnr. = *Naetrocymbe megalospora*  
*mycoporoides* Müll. Arg. = *Mycoporum mycoporoides*  
*padi* Rabenh. = *Naetrocymbe punctiformis*  
*parvula* Zahlbr. = *Anisomeridium biforme*  
*pinicola* (Hepp) A. Massal. = *A. cinereopruinosa*  
*planorbis* (Ach.) Müll. Arg. = *Constrictolumina planorbis*  
*prospersella* (Nyl.) Zahlbr. = *Pyrenocollema prospersella*  
*punctiformis* (Pers.) A. Massal. = *Naetrocymbe punctiformis*  
*quinqueseptata* (Nyl.) Müll. Arg. = *Polymeridium quinqueseptatum*



rhypona (Ach.) A. Massal. (Aptroot 2002a) = Naetrocymbe rhypona  
 salicis A. Massal. = Identity uncertain (Harris 1995a)  
 sanfordensis Zahlbr. = Anisomeridium excaecariae  
 sphaeroides (Wallr.) Zahlbr. = Acrocordia gemmata  
 sublitoralis (Leighton) Arnold = Collemopsidium sublitoralis  
 submuriformis R. C. Harris = Strigula submuriformis  
 subprostans (Nyl.) Müll. Arg. = Anisomeridium subprostans  
 subpunctiformis Nyl. = A. atomarioides  
 tenuis R. C. Harris = Strigula americana  
 tichothecioides Arnold = Pyrenocollema tichothecioides  
 willeyana R. C. Harris = Anisomeridium polypori

#### **ARTHOTHELIOPSIS** Vainio

**floridensis** Lücking & W. R. Buck (Lücking et al. 2007)  
**planicarpa** (Lücking) Lücking, Sérus. & Vězda (Lücking et al. 2007) A tentative report.

#### **ARTHOTHELIUM** A. Massal.

**abnorme** (Ach.) Müll. Arg.  
**adveniense** Nyl.  
**anastomosans** (Ach.) Arnold  
**distendens** (Nyl.) Müll. Arg.  
**hallii** (Tuck.) Zahlbr.  
**norvegicum** Coppins & Tønsberg (Tønsberg & Williams 2006)  
**orbilliferum** (Almq.) Hasse  
**ruanum** (A. Massal.) Körber Syn.: Arthonia ruana  
**spectabile** (Flotow) A. Massal. Syn.: Arthonia spectabilis  
**subcyrtodes** (Willey) Hasse  
**violascens** (Nyl.) Zahlbr.  
 albovirescens (Nyl.) Fink = Arthonia albovirescens  
 gregarinum (Willey) Zahlbr. = Coniarthonia gregarina  
 ilicinum (Taylor) P. James = Arthonia ilicina  
 interveniens (Nyl.) Zahlbr. = Arthonia interveniens  
**lichenale** (Peck) M. E. Barr (Barr et al. 1986) = **Mycoporum compositum** (Lendemer & Harris 2016)  
 macounii (G. Merr.) W. Noble = Arthonia macounii  
 macrothecum (Fée) A. Massal. = Arthonia macrothecum  
 +pruinascens Zahlbr. = Arthonia pruinascens (Grube 2007)  
 ruanideum (Nyl.) Arnold = A. ruanum  
 +sanguineum (Willey) Zahlbr. = Arthonia sanguinea (Grube 2007)  
 taediosum (Nyl.) Müll. Arg. North American reports are Arthonia susa (Lendemer et al. 2013)

#### **ARTHRORHAPHIS** Th. Fr.

\***aeruginosa** R. Sant. & Tønsberg  
**alpina** (Schaerer) R. Sant. Syn.: Bacidia alpina  
**citrinella** (Ach.) Poelt Syn.: Bacidia citrinella, B. flavovirescens  
 #**grisea** Th. Fr. Syn.: Lahmia fueistingii

#### **ARTHROSPORUM** A. Massal.

**populorum** A. Massal. Syns.: Bacidia populorum, B. acclinis, Bilimbia acclinis  
 accline (Flotow) A. Massal. = A. populorum

#### **ASAHINEA** W. L. Culb. & C. F. Culb.

**chrysantha** (Tuck.) W. L. Culb. & C. F. Culb. Syn.: Cetraria chrysantha  
**scholanderi** (Llano) W. L. Culb. & C. F. Culb. Syn.: Cetraria scholanderi

#### **ASPICILIA** A. Massal.

**albomarginata** B. de Lesd. Syn.: *Lecanora albomarginata*  
 [*Lecanora albopruinosa* Looman]  
**alboradiata** (H. Magn.) Oxner Syn.: *Lecanora alboradiata*  
**aliena** (Zahlbr.) Oxner Syn.: *Lecanora aliena*  
**americana** B. de Lesd. Syn.: *Lecanora americana*  
**anglica** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**annulata** (Lynge) J. W. Thomson Syn.: *Lecanora annulata*  
**anseris** (Lynge) J. W. Thomson Synonym: *Lecanora anseris*  
**aquatica** Körber Syn.: *Lecanora aquatica*  
**arctica** (Lynge) Oxner Syn.: *Lecanora arctica*  
**arizonica** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007, Knudsen et al. 2008b)  
**aspera** (Mereschk.) Tomin (McCune et al. 2014b)  
**aurantiaca** Owe-Larsson & A. Nordin (Knudsen et al. 2008b)  
**berntii** A. Nordin, Tibell & Owe-Larsson Syn.: *Lecanora mastoidea* (Nordin et al. 2008)  
**bicensis** F. Anderson & Lendemer (Anderson & Lendemer 2016)  
**boykinii** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**brucei** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**caesiopruinosa** (H. Magn.) J. W. Thomson Syn.: *Lecanora caesiopruinosa*  
**californica** Rosentreter (Rosentreter 1998)  
**candida** (Anzi) Hue Syn.: *Lecanora candida*  
**cinerea** (L.) Körber Syn.: *Lecanora cinerea*  
**cingulata** (Zahlbr.) Oxner Syn.: *Lecanora cingulata*  
**composita** (Lynge) J. W. Thomson Syn.: *Lecanora composita*  
**concinna** (J. W. Thomson) J. W. Thomson (Thomson 1997)  
**confusa** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**contigua** (Lynge) J. W. Thomson  
**cuprea** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007, Knudsen et al. 2008b)  
**curvabilis** (Nyl.) Hue (Hansen 2006)  
**cyanescens** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**determinata** (H. Magn.) N. S. Golubk. (Owe-Larsson et al. 2007)  
**disserpens** (Zahlbr.) Räsänen Syn.: *Lecanora disserpens*  
**elevata** (Lynge) J. W. Thomson Syn.: *Lecanora elevata*  
**filiformis** Rosentreter (Rosentreter 1998)  
**fimbriata** (H. Magn.) Clauzade & Rondon Syn.: *Lecanora fimbriata*  
**fumosa** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**glaucopsina** (Nyl. ex Hasse) Hue (Knudsen 2005b, Owe-Larsson et al. 2007)  
**grisea** Arnold (Fryday 2001)  
**heteroplaca** (Zahlbr.) Oxner Syn.: *Lecanora heteroplaca*  
**humboldtii** (Lynge) J. W. Thomson  
**karelica** (H. Magn.) Oxner  
**knudsenii** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**laevata** (Ach.) Arnold Syn.: *Lecanora laevata*  
**laxula** (H. Magn.) Brodo  
**lesleyana** Darb. Syn.: *Lecanora lesleyana*  
**limitata** (H. Magn.) J. W. Thomson Syn.: *Lecanora limitata*  
**mansourii** Sohrabi (McCune et al. 2014b)  
**mashiginensis** (Zahlbr.) Oxner  
**mazarina** (Wahlenb.) R. Sant.  
**narssaquensis** (Lynge) J. W. Thomson Syn.: *Lecanora basaltica*, *L. narssaquensis*  
**nashii** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**nathorstii** (Lynge) J. W. Thomson  
**nikrapensis** Darb. Syn.: *Lecanora nikrapensis*  
**nordlandica** (H. Magn.) Degel.  
**novae-semliae** (Zahlbr.) Oxner Syn.: *Lecanora novae-semliae*  
**olivaceobrunnea** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**olivaceopallida** (H. Magn.) Lendemer (Lendemer et al. 2013)



**pacifica** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007, Knudsen et al. 2008b)  
**peltastictoides** (Hasse) K. Knudsen & Kocourk. (Knudsen & Kocourková 2013) Syn.: *Lecanora peltastictoides*  
**pergibbosa** (H. Magn.) Räsänen Syn.: *Lecanora pergibbosa*  
**perradiata** (Nyl.) Hue Syn.: *Lecanora perradiata*  
**pertusa** (Lynge) J. W. Thomson Syn.: *Lecanora pertusa*  
**phaea** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007, Knudsen et al. 2008b)  
**plicigera** (Zahlbr.) Räsänen Syn.: *Lecanora plicigera*  
**polychroma** Anzi Syn.: *Lecanora polychroma*  
**praecrenata** (Nyl. ex Hasse) Hue Syn.: *Lecanora praecrenata* (Owe-Larsson et al. 2007, Knudsen et al. 2008b)  
**reptans** (Looman) Wetmore Syn.: *Lecanora reptans*:  
**rolleana** Hue Syn.: *Lecanora rolleana*  
**rosulata** Körber Syn.: *Lecanora rosulata*  
**ryrkaipiae** (H. Magn.) Oxner Syn.: *Lecanora ryrkaipiae*  
**santamonicae** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007, Knudsen et al. 2008b)  
**sipeana** (H. Magn.) Owe-Larsson & A. Nordin Syn.: *Lecanora sipeana* (Owe-Larsson et al. 2007)  
**sorediza** (Lynge) J. W. Thomson  
**sublapponica** (Zahlbr.) Oxner Syn.: *Lecanora sublapponica*  
**submersa** (Lamy) Hue  
**subplicigera** (H. Magn.) Oxner  
**subradians** (Nyl.) Hue Syn.: *Lecanora stygioplaca*, *L. subradiascens*, *L. subradians*  
**substictica** Owe-Larsson & A. Nordin (Owe-Larsson et al. 2007)  
**supertegens** Arnold Syn.: *Lecanora supertegens*  
**tenuis** (H. Magn.) Owe-Larsson & A. Nordin Syn.: *Lecanora tenuis* (Owe-Larsson et al. 2007)  
**verrucigera** Hue Syn.: *Lecanora verrucigera*  
*alphoplaca* (Wahlenb.) Poelt & Leuckert = *Lobothallia alphoplaca*  
*alpina* (Sommerf.) Arnold = *Bellemerea alpina*  
*bennettii* (Lynge) J. W. Thomson = *A. mashiginensis*  
*caesiocinerea* (Nyl. ex Malbr.) Arnold = *Circinaria caesiocinerea*  
*calcarea* (L.) Körber = *Circinaria calcarea*  
*cinereorufescens* (Ach.) A. Massal. = *Bellemerea cinereorufescens*  
*contorta* (Hoffm.) Kremp. = *Circinaria contorta*  
*desertorum* (Kremp.) Mereschk. North American reports are *Circinaria arida* (Owe-Larsson et al. 2011)  
*diamarta* (Ach.) Boistel = *Bellemerea diamarta*  
*excavata* G. Thor & Timdal = *Acarospora moenium*  
*flavida* (Hepp) Rehm = *Eiglera flavida*  
*fruticulosa* (Eversm.) Flagey = *Circinaria rogeri* for N.A. reports  
*gibbosa* (Ach.) Körber = *Circinaria gibbosa*  
*hispida* Mereschk. = *Circinaria hispida*  
*intermutans* (Nyl.) Arnold (McCune et al. 2014b) = *Aspiciliella intermutans*  
*lacustris* (With.) Th. Fr. = *Ionaspis lacustris*  
*leproscens* (Sandst.) Hav. = *Circinaria leproscens*  
*mastoidea* (Lynge) J. W. Thomson = *A. berntii* (Nordin et al. 2008)  
*mastrucata* (Wahlenb.) Th. Fr. (Wetmore 1967) = *Sagedia mastrucata*  
*melanaspis* (Ach.) Poelt & Leuckert = *Lobothallia melanaspis*  
*melinodes* Körber = *Porpidia melinodes*  
*moenium* (Vainio) G. Thor & Timdal = *Acarospora moenium* (Nordin et al. 2009)  
*myrinii* (Fr.) Stein = *Aspilidea myrinii*  
*pelobotrya* (Wahlenb.) Th. Fr. = *Amygdalaria pelobotryon*  
*praeradiosa* (Nyl.) Poelt & Leuckert = *Lobothallia praeradiosa*  
*quartzitica* W. A. Weber = *Schaereria fuscocinerea* (Owe-Larsson et al. 2007)  
*radiosa* (Hoffm.) Poelt & Leuckert = *Lobothallia radiosa*  
*rogeri* Sohrabi (Sohrabi et al. 2013b) = *Circinaria rogeri*  
*sanguinea* Kremp. = *Bellemerea sanguinea*

simoënsis Räsänen (Owe-Larsson et al. 2007) = Sagedia simoënsis  
stygioplaca (Nyl.) Hue = A. subadians  
subradiascens (Nyl.) Hue = A. subadians  
subsorediza (Lyng.) R. Sant. = Bellemerea subsorediza  
uxoris (Werner) V. J. Rico (Shrestha & St. Clair 2009) North American report = Teuhoa junipericola (Sohrabi et al. 2013a)

**ASPICILIELLA** M. Choisy

**intermutans** (Nyl.) M. Choisy Syn.: Aspicilia intermutans (Zakeri et al. 2017)

**ASPIDOTHELIUM** Vainio (Nelsen et al. 2017)

**cinerascens** Vainio (Lücking et al. 2011b) Syn.: Thelenella cinerascens

**fugiens** (Müll. Arg.) R. Sant. Syn.: Thelenella fugiens (Nelsen et al. 2017)

**geminiparum** (Malme) R. Sant. (Lücking et al. 2011b) Syn.: Thelenella geminipara

**scutellarpum** Lücking (Lücking et al. 2011b)

**ASPILIDEA** Hafellner (Hafellner & Türk 2001)

**myrinii** (Fr.) Hafellner

**ASTEROPHOMA** D. Hawksw.

\***mazaediicola** D. Hawksw.

**ASTEROTHYRIUM** Müll. Arg.

**decipiens** (Rehm) R. Sant.

**leucophthalmum** (Müll. Arg.) R. Sant.

**rotuliforme** (Müll. Arg.) Sérus. Syn.: Gyalectidium rotuliforme, Lopadiopsis floridana

**ASTROTHELIUM** Eschw.

**aeneum** (Eschw.) Aptroot & Lücking Syn.: Trypethelium aeneum (Aptroot & Lücking 2016)

**cinnamomeum** (Eschw.) Müll. Arg.

**crassum** (Fée) Aptroot (Aptroot & Lücking 2016)

**diplocarpoides** Müll. Arg. (Lücking et al. 2011b)

**diplocarpum** Nyl. (Harris 1995a)

**feei** (C. F. W. Meissn.) Aptroot & Lücking (Aptroot & Lücking 2016)

**floridanum** Zahlbr.

**marcidum** (Fée) Aptroot & Lücking Syn.: Trypethelium marcidum (Aptroot & Lücking 2016)

**megasperma** (Mont.) Aptroot & Lücking Syn.: Clathroporina diphloea, Laurera megasperma (Aptroot & Lücking 2016)

**nitidiusculum** (Nyl.) Aptroot & Lücking Syn.: Trypethelium nitidiuscula (Aptroot & Lücking 2016)

**phlyctaena** (Fée) Aptroot & Lücking Syn.: Trypethelium ochroleucum, T. pallescens (Aptroot & Lücking 2016)

**porosum** (Ach.) Aptroot & Lücking Syn.: Trypethelium porosum (Aptroot & Lücking 2016)

**scoria** (Fée) Aptroot & Lücking Syn.: Trypethelium scoria (Aptroot & Lücking 2016)

**subdisjunctum** (Müll. Arg.) Aptroot & Lücking Syn.: Laurera subdisjuncta (Aptroot & Lücking 2016)

**variolosum** (Ach.) Müll. Arg. Syn.: Trypethelium variolosum (Aptroot & Lücking 2016)

**versicolor** Müll. Arg.

**confusum** Müll. Arg. = A. crassum (Aptroot & Lücking 2016)

**conicum** auct. = A. cinnamomeum

**conicum** Eschw. = (?) type not found

**galbineum** Kremp. = A. macrocarpum (Aptroot & Lücking 2016)

**ochrothelium** Müll. Arg. = A. galbineum

**ATHALLIA** Arup, Frödén & Søchting (Arup et al. 2013)

**cerinelloides** (Erichsen) Arup, Frödén & Søchting Syn.: Caloplaca cerinelloides

**holocarpa** (Hoffm.) Arup, Frödén & Søchting Syn.: Caloplaca holocarpa

**pyracea** (Ach.) Arup, Frödén & Søchting Syn.: Caloplaca pyracea

**saxifragarum** (Poelt) Arup, Frödén & Söchting Syn.: *Caloplaca saxifragarum*  
**scopularis** (Nyl.) Arup, Frödén & Söchting Syn.: *Caloplaca scopularis*  
**vitellinula** (Nyl.) Arup, Frödén & Söchting Syn.: *Caloplaca vitellinula*

**ATHELIA** Pers.

\***arachnoidea** (Berk.) Jülich (Haffelner et al. 2002)

+**epiphylla** Pers.

**poeltii** Jülich

**ATLA** Savić & Tibell

**alaskana** S. Tibell & Tibell (Tibell & Tibell 2015)

**AULAXINA** Fée

**microphana** (Vainio) R. Sant.

**quadrangula** (Stirton) R. Sant.

**BACHMANNIOMYCES** D. Hawksw.

\***uncialicola** (Zopf) D. Hawksw.

**BACIDIA** De Not.

**absistens** (Nyl.) Arnold

**aggregatula** Malme

**arceutina** (Ach.) Arnold

[**Bilimbia artyta** (Ach.) Fink]

**auerswaldii** (Hepp ex Stizenb.) Mig.

**augustinii** (Tuck.) Zahlbr. = misplaced here, correct placement uncertain (Ekman 1996)

**bagliettoana** (A. Massal. & De Not.) Jatta

**biatorina** (Körber) Vainio

**brouardii** (B. de Lesd.) Zahlbr.

**campalea** (Tuck.) S. Ekman & Kalb

**circumspecta** (Nyl. ex Vainio) Malme

**coprodes** (Körber) Lettau (Llop & Ekman 2004) Syn.: *Bilimbia trachona* auct.

**coruscans** S. Ekman (Ekman 2004a)

**diffracta** S. Ekman

**ekmaniana** R. C. Harris, Lendemer & Ladd (Lendemer et al. 2016b)

**flavens** (Willey) Zahlbr. = a species of *Lecania* (Ekman 1996)

**friesiana** (Hepp) Körber

**granosa** (Tuck.) Zahlbr. Syns.: *Bilimbia granosa*, *Bilimbia pammellii* (Ekman 2014)

**hegetschweileri** (Hepp) Vainio

**helicospora** S. Ekman

**herbarum** (Stizenb.) Arnold

**heterochroa** (Müll. Arg.) Zahlbr.

**hostheleoides** (Nyl.) Zahlbr. Syn.: *Bilimbia accelinis*

**idahoensis** H. Magn. (McCune et al. 2014b)

**igniarii** (Nyl.) Oxner

**illudens** (Nyl.) Lynge

**insularis** Zahlbr.

**ioessa** Herre = misplaced here, correct placement uncertain (Ekman 1996)

**jacobi** (Tuck.) Hasse = misplaced here, correct placement uncertain (Ekman 1996, 2004a)

**kekesiana** R. C. Harris (Harris 2009)

**kingmanii** Hasse = misplaced here, correct placement uncertain (Ekman 1996)

**laurocerasi** (Delise ex Duby) Zahlbr.

**lobarica** Printzen & Tønsberg (Printzen & Tønsberg 2007)

**medialis** (Tuck. ex Nyl.) B. de Lesd. (Ekman 1996) Syns.: *Biatora molybditis*, *Bilimbia molybditis*, *Lecidea medialis* (Ekman 1996)

**mutabilis** Malme



**\*peltigericola** Vainio (Weber & Wittman 2000)  
**phyllopsoropsis** R. C. Harris & Lendemer (Harris & Lendemer 2006)  
**polychroa** (Th. Fr.) Körber Syn.: *Biatora fusciorubella*  
**purpurans** R. C. Harris, Lendemer & Ladd (Lendemer et al. 2016b)  
**ravenelii** (Tuck.) Zahlbr. Syn.: *Bilimbia ravenelii* Correct placement uncertain (Ekman 1996)  
**reagens** Malme  
**rosellizans** S. Ekman (Ekman 2009)  
**rubella** (Hoffm.) A. Massal.  
**rubidofusca** (Willey) Zahlbr. Syn.: *Bilimbia rubidofusca* Possibly a species of *Gyalidea* (Printzen 1995)  
**russeola** (Kremp.) Zahlbr.  
**salmonea** S. Ekman  
**saxicola** Looman = misplaced, correct placement uncertain (Ekman 1996)  
**schweinitzii** (Fr. ex Tuck.) A. Schneider Syn.: *Biatora leucampyx* (Lendemer & Harris 2012)  
**scopulicola** (Nyl.) A. L. Sm.  
**sorediata** Lendemer & R. C. Harris (Lendemer et al. 2016b)  
**subgranulosa** (Tuck.) Riddle Erroneously listed as a synonym of *Phyllopsora canoumbrina* in the checklist; possibly belongs to *Psorella* (Ekman 1996)  
**subincompta** (Nyl.) Arnold  
**suffusa** (Fr.) A. Schneider Syn.: *Biatora suffusa*  
**veneta** S. Ekman (Ekman 2004a)  
**vermifera** (Nyl.) Th. Fr. (Ekman 1996)  
**viridifarinsa** Coppins & P. James (Tønsberg 1997)  
abbrevians (Nyl.) Th. Fr. = *B. igniarii*  
abductans (Nyl.) Zahlbr. = *B. schweinitzii*  
accedens (Arnold) Lettau = *Bilimbia accedens*  
accedens sensu Harris = unnamed species (Ekman 1996)  
acclinis (Flotow) Zahlbr. = *Arthrosporum populorum*  
affinis (Stizenb.) Vainio = *B. subincompta*  
akompsa (Tuck.) Fink = a *Lecanactis* sp.  
alaskensis (Nyl.) Zahlbr. = *Herteliana alaskensis*  
albescens (Kremp.) Zwackh = *Bacidina phacodes*, but a misidentification for N.A. (Ekman 1996)  
alpina (Schaerer) Vainio = *Arthrorhaphis alpina*  
apiatica (Müll. Arg.) Zahlbr. = *Bacidina apiatica*  
arnoldiana Körber = *Bacidina arnoldiana*  
arthroniza (Nyl.) Zahlbr. = *Lecidella stigmathea*  
assulata (Körber) Vězda = *Bacidina assulata*  
atrogrisea (Delise ex Hepp) Körber = *B. laurocerasi*  
aurantiaca Vězda = *Fellhanera aurantiaca*  
bacillifera (Nyl.) Arnold = *B. circumspecta*  
beckhausii Körber = *Biatora beckhausii* (Printzen 2014)  
caloosensis (Tuck.) Zahlbr. = *B. hostheleoides*  
carneoalbida (Müll. Arg.) Coppins = *Mycobilimbia carneoalbida*  
chlorantha (Tuck.) Fink = *Ropalospora chlorantha*  
chlorococca (Stenh.) Lettau = *Scoliciosporum chlorococcum*  
chlorosticta (Tuck.) A. Schneider = *Micarea chlorosticta*  
citrinella (Ach.) Branth & Rostrup = *Arthrorhaphis citrinella*  
clementis Hasse = *Bactrospora patellarioides* (Ekman 1996)  
cuprea (A. Massal.) Lettau = *Lecania cuprea* (Ekman 1996)  
cupreorosella (Nyl.) A. Schneider = *Lecania cuprea*  
declinis (Tuck.) Zahlbr. = *Catillaria nigroclavata*  
dryina (Ach.) Fink = *Bactrospora dryina*  
effusa auct. = *B. assulata*  
egenula (Nyl.) Arnold = *Bacidina egenula*  
egenuloidea Fink = *Bacidina egenuloidea*  
endocyanea (Tuck. ex Willey) Zahlbr. = *Micarea endocyanea*

endoleuca auct. = *B. laurocerasi*  
 epixanthoides (Nyl.) Lettau = *Mycobilimbia epixanthoides*  
 flavovirescens (Dickson) Anzi = *Arthrorhaphis citrinella*  
 floridana (Tuck.) Zahlbr. = *Fellhanera floridana*  
 fusca (A. Massal.) Du Rietz = *Mycobilimbia tetramera*  
 fuscorubella (Hoffm.) Bausch = *B. polychroa*  
 fuscorubella var. suffusa (Fr.) Fink = *B. suffusa*  
 globulosa (Flörke) Hafellner & V. Wirth = *Biatora globulosa*  
 gyalectiformis (Zahlbr.) Hasse = *Ramonia gyalectiformis*  
 gyalizella (Nyl.) Zahlbr. = *Gyalecta gyalizella* (Baloch et al. 2013a)  
 hegetschweileri auct. = *B. vermifera* (Ekman 1996)  
 hegetschweileri (Hepp) Vainio = *B. subincompta* (Nyl.) Arnold (Ekman 1996)  
 hemipolia (Nyl.) Malme (Weber & Wittman 2000, Czarnota & Coppins 2007) = *Biatora hemipolia* (Printzen 2014)  
 herrei Zahlbr. = *Ophioparma rubricosa*  
 hypnophila (Turner ex Ach.) Zahlbr. = *Bilimbia sabuletorum*  
 incompta (Borrer ex Hooker) Anzi = misidentification for North America  
 intermedia (Hepp ex Stizenb.) Arnold = *Bacidina assulata* (Ekman 1996)  
 inundata (Fr.) Körber = *Bacidina inundata*  
 laurocerasi subsp. idahoensis (H. Magn.) S. Ekman = *B. idahoensis* (McCune et al. 2014b)  
 leucophyllina (Nyl.) Fink = misidentification for North America  
 lignaria (Ach.) Lettau = *Micarea lignaria*  
 lugubris (Sommerf.) Zahlbr. = *Ropalospora lugubris*  
 luteola "(Ach.) Mudd" = *B. rubella*  
 meadii (Tuck. ex Willey) Zahlbr. = *Byssoloma meadii*  
 melaena (Nyl.) Zahlbr. = *Micarea melaena*  
 microcarpa (Th. Fr.) Lettau = *Bilimbia microcarpa*  
 microphyllina auct. = *Phyllopsora santensis*  
 microphyllina (Tuck.) Riddle = misidentification for North America  
 minuscula Anzi = *B. beckhausii*  
 molybditis (Tuck.) Zahlbr. = *B. medialis*  
 muscorum (Sw.) Mudd = *B. bagliettoana*  
 naegelii (Hepp) Zahlbr. = *Lecania naegelii*  
 nivalis Follmann = *Stereocaulon nivale*  
 obscurata (Sommerf.) Zahlbr. = *Mycobilimbia tetramera*  
 pallens (Kullhem) Zahlbr. = *Biatora pallens* (Printzen & Otte 2005)  
 pammellii (Fink) Zahlbr. = *Bacidia granosa* (Ekman 2014)  
 phacodes auct. N. Am. = *Bacidina californica*, in part  
 populorum (A. Massal.) Trevisan = *Arthrosporum populorum*  
 rosella (Pers.) De Not. = *B. rosellizans* for North American reports  
 rubricosa (Müll. Arg.) Zahlbr. = *Ophioparma rubricosa*  
 sabuletorum (Schreber) Lettau = *Bilimbia sabuletorum*  
 sibiriensis (Willey ex Rothr.) Zahlbr. = *Lecania subfuscula* (Ekman 1996)  
 sphaeroides (Dickson) Zahlbr. = *Mycobilimbia pilularis*  
 sphaeroides auct. non (Dickson) Zahlbr. = *Mycobilimbia carneoalbida*  
 stigmatella (Tuck.) Zahlbr. = *Lecania stigmatella*  
 subfuscula (Nyl.) Th. Fr. = *Lecania subfuscula*  
 tetramera (De Not.) Coppins = *Mycobilimbia tetramera*  
 trachona (Ach.) Lettau North American reports are *B. coprodes* (Llop & Ekman 2004)  
 trisepta (Hellbom) Zahlbr. = *Micarea peliocarpa*  
 umbrina (Ach.) Bausch = *Scoliciosporum umbrinum*  
 verecundula (Th. Fr.) = misidentification for North America (Ekman 1996)

## **BACIDINA Vězda**

**aenea** S. Ekman

**apiahica** (Müll. Arg.) Vězda Syn.: *Bacidia apiahica*



**arnoldiana** (Körber) V. Wirth & Vězda Syn.: *Bacidia arnoldiana*  
**assulata** (Körber) S. Ekman Syn.: *Bacidia assulata*, *B. effusa*, *B. intermedia*  
**brittoniana** (Riddle) LaGreca & S. Ekman (Berger & LaGreca 2014)  
**californica** S. Ekman Syn.: *Bacidia phacodes* auct. N.A., *B. albescens* auct. N.A.?  
**chlorotricula** (Nyl.) Vězda & Poelt (Ekman 1996)  
**contecta** S. Ekman & T. Sprib. (Spribille et al. 2009)  
**crystallifera** S. Ekman  
**delicata** (Leighton) V. Wirth & Vězda (Harris & Lendemer 2005)  
**egenula** (Nyl.) Vězda Syn.: *Bacidia egenula*  
**egenuloidea** (Fink) S. Ekman Syn.: *Bacidia egenuloidea*  
**inundata** (Fr.) Vězda Syn.: *Bacidia inundata*  
**neosquamulosa** (Aptroot & van Herk) S. Ekman (Ekman 2004b)5  
**pallidocarnea** (Müll. Arg.) Vězda (Seavey & Seavey 2012)  
**phacodes** (Körber) Vězda (Harris & Ladd 2005)  
**ramea** S. Ekman  
**squamellosa** S. Ekman  
*phacodes* (Körber) Vězda = *Bacidia californica*, in part, for N.A. records  
*varia* S. Ekman = *B. brittoniana*

#### **BACIDIOPSORA** Kalb

**orizabana** (Vainio) Kalb (Seavey et al. 2017)  
**squamulosula** (Nyl.) Kalb (Seavey et al. 2014)

#### **BACTROSPORA** A. Massal.

**acicularis** (C. W. Dodge) Egea & Torrente (Egea et al. 2004a)  
**brevispora** R.C. Harris  
**brodoi** Egea & Torrente  
**carolinensis** (Ellis & Everh.) R. C. Harris (Knudsen et al. 2011b)  
**cascadensis** Ponzetti & McCune (Ponzetti & McCune 2006)  
**denticulata** (Vainio) Egea & Torrente  
**dryina** (Ach.) A. Massal. Syn.: *Bacidia dryina*  
**lamprospora** (Nyl.) Lendemer Syn.: *Gyalecta lamprospora*, *Melampylidium macrosporum* (Lendemer 2004a)  
**myriadea** (Fée) Egea & Torrente  
**patellarioides** (Nyl.) Almq. Syn.: *Lecanactis patellarioides*, *Bacidia clementis*  
**spiralis** Egea & Torrente  
*integrispora* Seaver = *B. denticulata* (Harris 1995a)  
*macrospora* R.C. Harris = *B. lamprospora*  
*mesospora* R.C. Harris = *B. carolinensis*  
*nematospora* R.C. Harris = *B. myriadea*

#### **BACULIFERA** Marbach & Kalb

**curtisii** (Tuck.) Marbach Syn.: *Buellia curtisii* (Marbach 2000), *Gyrostomum curtisii*  
**imshaugiana** (R. C. Harris) Marbach Syn.: *Buellia imshaugiana* (Marbach 2000)  
**micromera** (Vainio) Marbach (Seavey et al. 2017)

#### **BAEOMYCES** Pers.

**carneus** Flörke  
**placophyllus** Ach.  
**rufus** (Hudson) Rebent.  
*absolutus* Tuck. = *Dibaeis absoluta*  
*aeruginosa* (Scop.) DC. = *Icmadophila ericetorum*  
*byssoides* (L.) Ach. (Claassen 1912) = *B. rufus*  
*fungoides* (Sw.) Ach. North American reports are *Dibaeis baeomyces*  
*roseus* Pers. = *Dibaeis baeomyces*



**BAGLIETTOA** A. Massal.

- baldensis** (A. Massal.) Vězda (Breuss 2007a) Syn.: *Verrucaria baldensis*  
**calciseda** (DC.) Gueidan & Cl. Roux Syn.: *Verrucaria calciseda* (Knudsen & Kocourková 2009b)  
**marmorea** (Scop.) Gueidan & Cl. Roux Syn.: *Verrucaria marmorea* (Yuzon et al. 2014)  
**rubrocincta** (Breuss) Gueidan & Cl. Roux (Yuzon et al. 2014) Syn.: *Verrucaria rubrocincta*

**BATHELIUM** Ach. (Harris 1995a)

- carolinianum** (Tuck.) R. C. Harris (Harris 1995a) Syn.: *Trypethelium carolinianum*  
**madreporiforme** (Eschw.) Trevisan (Harris 1995a) Syn.: *Laurera madreporiformis*

**BELLEMERE** Hafellner & Cl. Roux

- alpina** (Sommerf.) Clauzade & Cl. Roux Syns.: *Lecanora alpina*, *L. applegatei*, *Aspicilia alpina*  
**cinereorufescens** (Ach.) Clauzade & Cl. Roux Syns.: *Aspicilia cinereorufescens*, *Lecanora cinereorufescens*  
**diamarta** (Ach.) Hafellner & Cl. Roux Syn.: *Aspicilia diamarta*  
**sanguinea** (Kremp.) Hafellner & Cl. Roux Syns.: *Aspicilia sanguinea*, *Lecanora sanguinea*  
**subsolediza** (Lynge) R. Sant. Syns.: *Lecidea subsolediza*, *Aspicilia subsolediza*

**BELLEMERELLA** Nav.-Ros. & Cl. Roux

- \*ritae** Pérez-Ortega & T. Sprib. (Pérez-Ortega & Spribille 2007)

**BELONIA** Körber ex Nyl. = **GYALECTA** (Baloch et al. 2013a)

- americana** Fink ex Hedr. = *Robergea pupula*, but excluded as a non-lichen  
**fennica** Vainio = *Gyalecta russula*  
**russula** Körber ex Nyl. = *Gyalecta russula*

**BIATORA** Fr.

- aegrefaciens** Printzen (Printzen et al. 2002)  
**alaskana** Printzen & Tønsberg (Printzen & Tønsberg 1999)  
**appalachensis** Printzen & Tønsberg (Printzen & Tønsberg 2004)  
**aureolepra** T. Sprib. & Tønsberg (Spribille et al. 2009)  
**beckhausii** (Körber) Tuck. Syn.: *Bacidia beckhausii* (Printzen 2014)  
**caulophylla** Tuck. Possibly belongs to *Lecanora* (Ryan & Nash 1997a)  
**chrysantha** (Zahlbr.) Printzen in V. Wirth (Printzen 1995)  
**chrysanthoides** Printzen & Tønsberg (Printzen & Tønsberg 2003)  
**cuprea** (Sommerf.) Fr. Syn.: *Lecidea cuprea*  
**efflorescens** (Hedl.) Räsänen (Printzen 1995) Syns.: *Lecidea efflorescens*, *L. epixanthoidiza*  
**ementiens** (Nyl.) Printzen Syn.: *Lecidea ementiens* (Printzen 2014)  
**fallax** Hepp (Printzen & Tønsberg 1999)  
**flavopunctata** (Tønsberg) Hinter. & Printzen Syn.: *Lecanora flavopunctata*  
**globulosa** (Flörke) Fr. Syns.: *Bacidia globulosa*, *Catillaria globulosa*, *Lecidea globulosa*, *L. sylvana* (Printzen 2004)  
**helvola** Körber ex Hellbom (Spribille et al. 2010) Syn.: *Lecidea helvola*  
**hemipolia** (Nyl.) S. Ekman & Printzen Syn.: *Bacidia hemipolia* (Printzen 2014)  
**hypophaea** Printzen & Tønsberg (Printzen & Tønsberg 1999)  
**kodiakensis** Printzen & Tønsberg (Printzen & Tønsberg 2004)  
**ligni-mollis** T. Sprib. & Printzen (Spribille et al. 2009)  
**longispora** (Degel.) Lendemer & Printzen Syn.: *Lecidea helvola* var. *longispora* (Lendemer 2004b)  
**meiocarpa** (Nyl.) Arnold Syn.: *Lecidea meiocarpa*, *L. minuta*  
**meiocarpa** var. **tacomensis** (Printzen & Tønsberg) Printzen & Tønsberg (Printzen & Tønsberg 2004) Syn.: *Lecidea meiocarpa* var. *tacomensis*  
**mendax** Anzi (McMullin et al. 2017)  
**nobilis** Printzen & Tønsberg (Printzen & Tønsberg 1999)  
**ocelliformis** (Nyl.) Arnold (Printzen & Otte 2005)  
**oligocarpa** Printzen & Tønsberg (Printzen & Tønsberg 2004)  
**pallens** (Kullhem) Printzen (Printzen & Otte 2005) Syns.: *Cliostomum pallens*, *Bacidia pallens*

**pausiaca** Printzen & Tønsberg (Printzen & Tønsberg 2003)  
**pontica** Printzen & Tønsberg (Printzen & Tønsberg 2003)  
**printzenii** Tønsberg (Tønsberg 2002)  
**pycnidiata** Printzen & Tønsberg (Printzen & Tønsberg 2004)  
**rufidula** (Graewe) S. Ekman & Printzen (Printzen & Tønsberg 1999)  
**sphaeroidiza** (Vainio) Printzen & Holien (Dillman et al. 2012)  
**subduplex** (Nyl.) Printzen (Printzen 1995) Syn.: *Lecidea subduplex*, *L. apochroeiza*, *L. internectens*  
**terrae-novae** [Printzen & J. W. McCarthy \(Printzen et al. 2017\)](#)  
**toensbergii** Holien & Printzen (Printzen & Tønsberg 1999)  
**vacciniicola** (Tønsberg) Printzen (Printzen 1995) Syn.: *Lecidea vacciniicola*  
**vernalis** (L.) Fr. Syn.: *Lecidea vernalis*  
*atropurpurea* (Schaerer) Hepp = *Catinaria atropurpurea*  
*albohyalina* (Nyl.) Bagl. & Carestia = *Lecidea albohyalina* (Printzen & Tønsberg 1999)  
*amaurospoda* Anzi = *Lecidea pullata*  
*anthracophila* (Nyl.) Hafellner = *Carbonicola anthracophila*  
*botryosa* Fr. (Printzen 1995) = *Hertelidea botryosa*  
*carneoalbida* (Müll. Arg.) Coppins = *Mycobilimbia carneoalbida*  
*cladoniscum* Willey (see note under *Nesolechia cladoniscum*)  
*cyrtella* (Ach.) W. Mann = *Lecania cyrtella*  
*decipiens* (Ehrh.) Fr. = *Psora decipiens*  
*epixanthoides* (Nyl.) Diederich = *Mycobilimbia epixanthoides*  
*floridana* Tuck. = *Fellhanera floridana*  
*franciscana* Tuck. = *Lecania franciscana*  
*friesii* (Ach.) Tuck. = *Xylopsora friesii*  
*furvonigrans* Tuck. ex Willey = *Lecidea furvonigrans*  
*fuscorubella* (Hoffm.) Tuck. = *Bacidia polychroa*  
*hypomela* “Nyl.” (Mohr 1901) = *Lecidea hypomela*?  
*meadii* Tuck. ex Willey = *Byssoloma meadii*  
*molybditis* Tuck. = *Bacidia medialis*  
*myriocarpella* G. Merr. = *Lecidea enalla* (Printzen 1995)  
*paddensis* Tuck. = *Lecanora paddensis* (McCune et al. 2014b)  
*papillariae* Willey (see note under *Nesolechia cladoniscum*)  
*parvifolia* (Pers.) Tuck. = *Phyllopsora parvifolia*  
*petri* Tuck. = *Romjularia lurida*  
*porphyrospoda* Anzi = *Myochroidea porphyrospoda*  
*pullata* Norman = *Frutidella pullata*  
*pullula* Tuck. = *Lecanora anopta*  
*rufofusca* Anzi = *Myochroidea rufofusca*  
*rufonigra* Tuck. = *Psorula rufonigra*  
*russula* (Ach.) Mont. = *Ramboldia russula*  
*russellii* Tuck. = *Psora russellii*  
*scrupulosa* Eckfeldt = *Fuscidea scrupulosa*  
*sibiriensis* Willey ex Rothr. = *Lecania subfuscula* (Ekman 1996, Dillman et al. 2012)  
*sphaeroides* (Dickson) Körber = *Mycobilimbia pilularis*  
*suffusa* Fr. = *Bacidia suffusa*  
*turgidula* (Fr.) Nyl. = *Lecidea turgidula*  
*varians* (Ach.) Eschw. = *Lecidea varians*  
*viridescens* (Schrader) W. Mann = *Trapeliopsis viridescens*

#### **BIATORELLA** De Not.

**camptocarpa** (Tuck.) Fink (Tuckerman 1888, Fink 1935, Esslinger & Tucker 2009)  
**conspurcans** Norman (Dillman et al. 2012)  
**contigua** N. S. Golubk. & Piin (Zhurbenko et al. 2005)  
**cyphalea** (Tuck.) Zahlbr.  
**floridensis** H. Magn.  
**hemisphaerica** Anzi



albidula (Willey) Zahlbr. = Myrionora albidula  
 campestris (Fr.) Almq. = Sarcosagium campestre  
 clauzadeana Llimona & Vězda = Acarospora clauzadeana  
 clavus (DC.) Th. Fr. = Sarcogyne clavus  
 conspersa (Fée) Vainio = Piccolia conspersa  
 fossarum (Dufour ex Fr.) Th. Fr. = B. hemisphaerica for North American records  
 geophana (Nyl.) Rehm (Fink 1935) = Steinia geophana  
 hypophaea (Nyl.) Blomb. & Forssell = Sarcogyne hypophaea  
 kulshanensis Herre = Sporastatia testudinea (Ketzner 2010)  
 leucampyx Tuck. = Bacidia schweinitzii (Lendemer & Harris 2012)  
 microhaema Norman = Strangospora microhaema  
 moriformis (Ach.) Th. Fr. = Strangospora moriformis  
 nannaria (Tuck.) Zahlbr. (Fink 1935) = Piccolia nannaria  
 ochrophora (Nyl.) Arnold = Piccolia ochrophora  
 plicata (H. Magn.) Zahlbr. = Sarcogyne plicata (Knudsen & Lendemer 2005a)  
 pruinosa "(Körber) Mudd" = Sarcogyne regularis  
 rappii Zahlbr. = Ramonia microspora (Lendemer & Knudsen 2011)  
<sup>+</sup>resinae (Fr.) Th. Fr. = Sarea resinae  
 revertens (Tuck.) Herre (Tuckerman 1882, Fink 1935) = Polysporina simplex (Tucker & Jordan 1979)  
 simplex (Taylor) Branth & Rostrup = Polysporina simplex  
 terrena Hasse = Sarcogyne crustacea (Knudsen & Kocourková 2010a)  
 testudinea (Ach.) A. Massal. = Sporastatia testudinea

#### **BIATORIDIUM** J. Lahm

**delitescens** (Arnold) Hafellner (Ekman 1996)  
**monasteriense** J. Lahm ex Körber (McCune & Rosentreter 2014)

#### **BIATOROPSIS** Räsänen

\***minuta** Millanes, Diederich, M. Westb. & Wedin (Millanes et al. 2016)  
 \***usnearum** Räsänen

#### **BLAZROVIA** Zhurb. & Etayo

\***stereocaulicola** Zhurb. & Etayo (Zhurbenko & Pino-Bodas 2017)

#### **BILIMBIA** De Not.

**accedens** Arnold Syns.: Mycobilimbria accedens, Myxobilimbria accedens (Spribille et al. 2010)  
**lobulata** (Sommerf.) Hafellner & Coppins Syns.: Mycobiolimbria lobulate, Toninia lobulata (Veldkamp 2004)  
**microcarpa** (Th. Fr.) Th. Fr. Syns.: Bacidia microcarpa, Mycobilimbria microcarpa (Veldkamp 2004)  
**sabuletorum** (Schreber) Arnold Syns.: Bacidia sabuletorum, B. hypnophila, Mycobilimbria sabuletorum, Myxobilimbria sabuletorum (Veldkamp 2004)  
 acclinis (A. Massal.) Trevisan (Fink 1935) = Arthrosporum populorum (Ekman 1996)  
 caloosensis (Tuck.) Fink (Fink 1935) = Bacidia hostheleoides (Ekman 1996)  
 caudata (Nyl.) Fink = Ropalospora lugubris  
 cupreorosella (Nyl.) Bausch (Fink 1935) = Lecania cuprea (Ekman 1996)  
 declinis (Tuck.) Fink (Fink 1935) = Catillaria nigroclavata (Ekman 1996)  
 floridana (Tuck.) Riddle (Fink 1935) = Fellhanera floridana (Ekman 1996)  
 granosa (Tuck.) Fink (Fink 1935) = Bacidia granosa (Ekman 2014)  
 gyalectiformis Zahlbr. = Ramonia gyalectiformis  
 gyalizella (Nyl.) Fink (Fink 1935) = Gyalecta gyalizella (Baloch et al. 2013a)  
 lignaria (Ach.) A. Massal. (Fink 1935) = Micarea lignaria  
 meadii (Tuck.) Fink (Fink 1935) = Byssoloma meadii (Tuck. ex Willey) S. Ekman (Ekman 1996)  
 melaena (Nyl.) Arnold (Fink 1935) = Micarea melaena  
 molybditis (Tuck.) Fink (Fink 1935) = Bacidia medialis (Ekman 1996)  
 naegelii (Hepp) Kremp. (Fink 1935) = Lecania naegelii  
 pammellii Fink (Fink 1935) = Bacidia granosa (Ekman 2014)



ravenelii (Tuck.) Fink (Fink 1935) = *Bacidia ravenelii* (Ekman 1996)  
 rubidofusca (Willey) Fink (Fink 1935) = *Bacidia rubidofusca* (Ekman 1996)  
 rubricosa (Müll. Arg.) Fink (Fink 1935) = *Ophioparma rubricosa* (Ekman 1996)  
 sphaeroides (Dickson) Körber (Fink 1935) = *Mycobilimbia pilularis* (Ekman 1996)  
 sphaeroides auct. = *Mycobilimbia carneoalbida* (Ekman 1996)  
 trachona (Ach.) Trevisan (Fink 1935) North American reports are *Bacidia coprodes* (Llop & Ekman 2004)  
 trisepta (Nägeli) Arnold = *Micarea peliocarpa* (Santesson et al. 2004)  
 tricholoma (Mont.) Fink = *Byssoloma tricholomum*

#### BISPORA Fuckel

\*christiansenii D. Hawksw. (Alstrup & Cole 1998) = *Intralichen christiansenii*  
 \*lichenum Diederich (Cole & Hawksworth 2001) = *Intralichen lichenum*

#### BLASTENIA A. Massal. (Arup et al. 2013)

**ammiospila** (Wahlenb.) Arup, Søchting & Frödén Syns. *Caloplaca ammiospila*, *C. cinnamomea*, *C. discoidalis*  
**ferruginea** (Hudson) Th. Fr. Syn.: *Caloplaca ferruginea*, *Placodium ferrugineum*  
**furfuracea** (H. Magn.) Arup, Søchting & Frödén Syn.: *Caloplaca furfuracea*  
*atrosanguinea* (G. Merr.) Fink (Fink 1935) = *Caloplaca atrosanguinea*  
*crenularia* (With.) Arup, Søchting & Frödén = misidentification for North America (Wetmore 1996)  
*diphasia* (Tuck.) Zahlbr. = *Caloplaca diphasia*  
*festiva* (Ach.) A. Massal. = *Caloplaca crenularia*, but North American records incorrect according to Wetmore (1996)  
*floridana* (Tuck.) Zahlbr. = *Caloplaca floridana*  
*fraudans* (Th. Fr.) B. de Lesd. = *Caloplaca fraudans*  
*luteominia* (Tuck.) Hasse = *Polycauliona luteominea*  
*novomexicana* Fink = a *Caloplaca* sp.?  
*rubrofusca* B. de Lesd. = a *Caloplaca* sp.?  
*sinapisperma* (DC.) A. Massal. = *Bryoplaca sinapisperma*

#### BLENNOTHALLIA Trevisan (Otálora et al. 2014)

**crispa** (Hudson) Otálora, P. M. Jørg. & Wedin Syn.: *Collema cheilum*, *C. crispum*  
**fecunda** (Degel.) Otálora, P. M. Jørg. & Wedin Syn.: *Collema fecundum*

#### BOGORIELLA Zahlbr.

**socialis** (Zahlbr.) Aptroot & Lücking (Aptroot & Lücking 2016)

#### BOMBYLIOSPORA De Not. ex A. Massal. = MEGALOSPORA

*domingensis* (Pers.) Zahlbr. = *Letrouitia domingensis*  
*pachycheila* (Tuck.) Zahlbr. = *Megalospora pachycheila*  
*porphyritis* (Tuck.) A. Massal. = *Megalospora porphyritis*  
*tuberculosa* (Fée) De Not. = *Megalospora tuberculosa*  
*vulpina* (Nyl.) J. M. Burgess = nom. inval. = *Letrouitia vulpina*

#### BOTRYDINA Bréb. = LICHENOMPHALIA

*botryoides* (L.) Redhead & Kuyper = *Lichenomphalia umbellifera*  
*luteovitellina* (Pilát & Nannf.) Redhead & Kuyper = *Lichenomphalia alpina*  
*velutina* (Quélet) Redhead & Kuyper = *Lichenomphalia velutina*  
*viridis* (Ach.) Redhead & Kuyper = *Lichenomphalia hudsoniana*  
*vulgaris* Bréb. sens. str. = *Lichenomphalia umbellifera*

#### BOTRYOLEPRARIA Canals, Hernández-Mariné, Gómez-Bolea & Llimona

**lesdainii** (Hue) Canals, Hernández-Mariné, Gómez-Bolea & Llimona Syn.: *Lepraria lesdainii* (Canals et al. 1997)

BOTTARIA A. Massal. = MYCOPORUM Flotow ex Nyl.  
cruentata Müll. Arg. = Pyrenula cruentata

**BRACKELIA** Zhurb.

\***lunkei** Zhurb. (Zhurbenko & Pino-Bodas 2017)

**BRIANARIA** S. Ekman & M. Svensson (Ekman & Svensson 2014)

**bauschiana** (Körber) S. Ekman & M. Svensson Syns.: Lecidea dilutiuscula, L. lynceola auct. N. Am.,  
Micarea bauschiana

**lutulata** (Nyl.) S. Ekman & M. Svensson Syns.: Lecidea lutulata, Micarea lutulata

**sylvicola** (Flotow ex Körber) S. Ekman & M. Svensson Syns.: Lecidea sylvicola, Micarea sylvicola

**tuberculata** (Sommerf.) S. Ekman & M. Svensson Syn.: Micarea tuberculate

**BRIANCOPPINSIA** Diederich, Ertz, Lawrey & van den Boom (Diederich et al. 2012)

\***cytopora** (Vouaux) Diederich, Ertz, Lawrey & van den Boom (Diederich et al. 2012, Kocourková et al. 2012) Syn.: Phoma cytopora

**BRIGANTIAEA** Trevisan

**fuscolutea** (Dickson) R. Sant. Syn.: Lopadium fuscoluteum

**leucoxantha** (Sprengel) R. Sant. & Hafellner Syn.: Lopadium leucoxanthum, Heterothecium  
leucoxanthum

**praetermissa** Hafellner & St. Clair (Hafellner 1997)

purpurata (Zahlbr.) Hafellner & Bellem. (Goward et al. 1996) = B. praetermissa (Hafellner 1997)

**BRODOA** Goward

**oroarctica** (Krog) Goward Syn.: Hypogymnia oroarctica.

atrofusca (Schaerer) Goward Syns.: Hypogymnia atrofusca, Parmelia atrofusca. North American  
reports are probably misidentifications of Brodoa oroarctica

intestiniformis (Vill.) Goward Syns.: Hypogymnia intestiniformis, H. encausta, Parmelia

intestiniformis, P. encausta. North American reports are misidentifications of Brodoa oroarctica

**BRUCEA** Rikkinen (Rikkinen 2003b) = **BRUCEOMYCES** Rikkinen (Tuovila et al. 2012)

+**castoris** Rikkinen = Bruceomyces castoris

**BRUCEOMYCES** Rikkinen (Tuovila et al. 2012)

+**castoris** Rikkinen

**BRYOBILIMBIA** Fryday, Printzen & S. Ekman (Fryday et al. 2014)

**ahlesii** (Körber) Fryday, Printzen & S. Ekman Syns.: Lecidea ahlesii, L. delincta

**ahlesii** var. **nemoralis** (J. Lowe) Fryday, Printzen & S. Ekman Syns.: Lecidea ahlesii var. nemoralis,  
L. nemoralis

**diapensiae** (Th. Fr.) Fryday, Printzen & S. Ekman Syn.: Lecidea diapensiae

**hypnorum** (Lib.) Fryday, Printzen & S. Ekman Syns.: Lecidea hypnorum, L. fusca, L. templetonii, L.  
atrofusca, L. sanguineoatra sens. Nyl., Mycobilimbium hypnorum

**BRYOCAULON** Kärnefelt

**divergens** (Ach.) Kärnefelt Syns.: Alecatoria divergens, Cornicularia divergens, Coelocaulon divergens

**pseudosatoanum** (Asahina) Kärnefelt Syn.: Cornicularia pseudosatoana

**BRYODINA** Hafellner

**rhypariza** (Nyl.) Hafellner & Türk (Zhurbenko 2013)

**BRYONORA** Poelt

**castanea** (Hepp) Poelt Syn.: Lecanora castanea

**curvescens** (Mudd) Poelt Syn.: Lecania curvescens

**pruinosa** (Th. Fr.) Holtan-Hartwig  
**septentrionalis** Holtan-Hartwig

**BRYOPHAGUS** Nitschke ex Arnold

**gloeocapsa** Nitschke ex Arnold (fide J. Hafellner, see Appendix) = *Cryptodiscus gloeocapsa*

**BRYOPLACA** Söchting, Frödén & Arup (Arup et al. 2013)

**jungermanniae** (Vahl) Söchting, Frödén & Arup Syn.: *Caloplaca jungermanniae*

**sinapisperma** (Lam. & DC.) Söchting, Frödén & Arup Syns.: *Blastenia sinapisperma*, *Caloplaca leucoraea*, *C. sinapisperma*

**tetraspora** (Nyl.) Söchting, Frödén & Arup Syn.: *Caloplaca tetraspora*

**BRYOPOGON** Link

**negativus** Gyelnik = *Bryoria fuscescens*

**pacificus** Gyelnik = *Bryoria fuscescens*

**BRYORIA** Brodo & D. Hawksw.

**alaskana** Myllys & Goward (Myllys et al. 2016)

**ambigua** (Motyka) Bystr. & Fabiszewski Syn.: *Alectoria ambigua* (Bystrek & Fabiszewski 1998)

**americana** (Motyka) Holien Syn.: *Alectoria americana* (Holien 1994, Myllys et al. 2011)

**bicolor** (Ehrh.) Brodo & D. Hawksw. Syn.: *Alectoria bicolor*

**carlottae** Brodo & D. Hawksw.

**cervinula** Motyka ex Brodo & D. Hawksw. Syn.: *Alectoria cervinula*

**fabiszewskiana** Bystr. (Bystrek & Fabiszewski 1998)

**fremontii** (Tuck.) Brodo & D. Hawksw. Syns.: *Alectoria fremontii*, *A. corneliae*, *A. tenerrima*, *A. tortuosa*

**friabilis** Brodo & D. Hawksw. (Velmala et al. 2014)

**furcellata** (Fr.) Brodo & D. Hawksw. Syns.: *Alectoria nidulifera*, *Cornicularia fibrillosa*

**furcellata** subsp. **hawksworthiana** Bystr. & Fabiszewski (Bystrek & Fabiszewski 1998)

**fuscescens** (Gyelnik) Brodo & D. Hawksw. Syns.: *Alectoria fuscescens*, *A. positiva*, *Bryopogon pacificus*

**glabra** (Motyka) Brodo & D. Hawksw. Syn.: *Alectoria glabra*

**inactiva** Goward, Velmala & Myllys (Velmala et al. 2014)

**irwinii** Goward & Myllys (Myllys et al. 2016)

**kockiana** Velmala, Myllys & Goward (Velmala et al. 2014)

**nadvornikiana** (Gyelnik) Brodo & D. Hawksw. Syns.: *Alectoria nadvornikiana*, *A. altaica*

**nitidula** (Th. Fr.) Brodo & D. Hawksw. Syns.: *Alectoria nitidula*, *A. irvingii*, *A. lanea* auct.

**pikei** Brodo & D. Hawksw. Syns.: *Alectoria cana*, North American reports of *A. capillaris* & *A. setacea*

**pseudofuscescens** (Gyelnik) Brodo & D. Hawksw. Syns.: *Alectoria achariana*, *A. norstictica* nom. inval., *A. subtilis* nom. inval. (Velmala et al. 2014)

**salazinica** Brodo & D. Hawksw.

**simplicior** (Vainio) Brodo & D. Hawksw. Syns.: *Alectoria simplicior*, *A. nana* nom. nudum

**tenuis** (E. Dahl) Brodo & D. Hawksw. Syn.: *Alectoria tenuis*

**trichodes** (Michaux) Brodo & D. Hawksw. subsp. **trichodes** Syns.: *Alectoria canadensis*, *A. delicata* nom. nudum

**trichodes** subsp. **brodoana** Bystr. & Fabiszewski (Bystrek & Fabiszewski 1998)

**trichodes** subsp. **canadensis** (Motyka) Bystr. & Fabiszewski (Bystrek & Fabiszewski 1998)

**vrangiana** (Gyelnik) Brodo & D. Hawksw. (Velmala et al. 2014)

**abbreviata** (Müll. Arg.) Brodo & D. Hawksw. = *Nodobryoria abbreviata*

**capillaris** (Ach.) Brodo & D. Hawksw. A European species; North American records are *B. pikei* (Velmala et al. 2014)

**chalybeiformis** (L.) Brodo & D. Hawksw. = *B. fuscescens* (Velmala et al. 2014)

**implexa** (Hoffm.) Brodo & D. Hawksw. A European species; North American records are *B. kockiana*

**lanestris** (Ach.) Brodo & D. Hawksw. = *B. fuscescens* (Velmala et al. 2014)

**oregana** (Tuck. ex Willey) Brodo & D. Hawksw. = *Nodobryoria oregana*



pseudocapillaris Brodo & D. Hawksw. = Sulcaria spiralifera (Myllys et al. 2014)  
 setacea (Ach.) Brodo & D. Hawksw. Not in North America.  
 spiralifera Brodo & D. Hawksw. = Sulcaria spiralifera (Myllys et al. 2014)  
 subcana (Nyl. ex Stizenb.) Brodo & D. Hawksw. = B. fuscescens (Velmala et al. 2014)  
 subdivergens (E. Dahl) Brodo & D. Hawksw. = Nodobryoria subdivergens  
 tortuosa (G. Merr.) Brodo & D. Hawksw. = B. fremontii (Velmala et al. 2009)  
 trichodes subsp. americana (Motyka) Brodo & D. Hawksw. = B. americana (Myllys et al. 2011)

#### **BRYOSCYPHUS** Spooner

\***lichenicola** Alstrup & M. S. Cole (Alstrup & Cole 1998)

#### **BRYOSTIGMA** Poelt & Döbbeler

**muscigenum** (Th. Fr.) Frisch & G. Thor Syn.: Arthonia muscigena, A. leucodontis (Frisch et al. 2014)  
 leucodontis Poelt & Döbbeler = Bryostigma muscigenum

#### **BUELLIA** De Not.

**abstracta** (Nyl.) H. Olivier (Giralt et al. 2011, Knudsen & Kocourková 2010c)  
**aethalea** (Ach.) Th. Fr.  
**arborea** Coppins & Tønsberg (Tønsberg & McCune 2001)  
**arnoldii** Servit Syn.: Hafellia arnoldii  
 #**badia** (Fr.) A. Massal. Syn.: Amandinea turgescens  
**bahiana** Malme Syn.: Hafellia bahiana  
**bahiana** var. **pleiotropa** Malme  
**bolacina** Tuck.  
**calcariaecola** B. de Lesd.  
**callispora** (C. Knight) J. Steiner Syn.: Hafellia callispora  
**capitis-regum** W. A. Weber  
**cedricola** Werner (Nordin 1999)  
**christophii** Bungartz (Bungartz et al. 2004a)  
**circumpallida** H. Magn. Syn.: Endohyalina circumpallida  
**concinna** Th. Fr. (Bungartz et al. 2004b)  
**conspirans** (Nyl.) Vainio (Bungartz 2004)  
**crystallifera** (Vainio) Hav. (Goward et al. 1996)  
**curatellae** Malme Syn.: Hafellia curatellae  
**disciformis** (Fr.) Mudd Syn.: Hafellia disciformis  
**dispersa** A. Massal.  
**eganii** Bungartz (Bungartz & Nash. 2004a)  
**elegans** Poelt  
**elizae** (Tuck.) Tuck. Syn.: Gassicurtia elizae (Lendemer et al. 2013)  
**epigaea** (Hoffm.) Tuck.  
**erubescens** Arnold  
 [Hafellia **fosteri** Imshaug & Sheard]  
**georgei** Trinkaus, H. Mayrhofer & Elix (Bungartz et al. 2007)  
**griseovirens** (Turner & Borrer ex Sm.) Almb.  
**halonia** (Ach.) Tuck.  
**immersa** Lynge  
 \***imshaugii** Hafellner  
**jugorum** (Arnold) Arnold  
**lacteoidea** B. de Lesd.  
**lepidastra** (Tuck.) Tuck. Syn.: Lecidea lepidastra  
**leptocline** (Flotow) A. Massal.  
**maculata** Bungartz (Bungartz 2004a)  
**mamillana** (Tuck.) W. A. Weber Syn.: Rinodina mamillana, R. thomae  
**maritima** (A. Massal.) Bagl. (Bungartz et al. 2007)  
**mexicana** J. Steiner (Nordin 2000)  
**microbola** (Tuck. ex Fink) Sheard Syn.: Rinodina microbola

**#miriquidica** Scheid. (Fryday 2006)  
**muriformis** A. Nordin & Tønsberg (Nordin 1999)  
**nantiana** B. de Lesd.  
**nashii** Bungartz (Bungartz 2004)  
**navajoensis** Bungartz (Bungartz 2004)  
**nigra** (Fink) Sheard Syn.: *Rinodina nigra*  
**occidentalis** Lynge (Lepage 1972)  
**ocellata** (Flotow) Körber  
**oidalea** (Nyl.) Tuck. Syn.: *Rhizocarpon oidaleum*  
**parastata** (Nyl.) Zahlbr. Syn.: *Hafellia parastata*  
**pleiotera** Malme Syn.: *Hafellia pleiotera*  
**prospersa** (Nyl.) Riddle (Bungartz et al. 2004b)  
**pullata** Tuck. (Bungartz et al. 2004b)  
**ryanii** Bungartz (Bungartz et al. 2004b)  
**schaereri** De Not.  
**sequax** (Nyl.) Zahlbr. (Bungartz et al. 2004b) Many previous reports are *B. abstracta* (Giralt et al. 2011)  
**sharpiana** Lendemer & R. C. Harris (Lendemer & Harris 2013a)  
**silicicola** B. de Lesd.  
**smaragdula** B. de Lesd.  
**spuria** (Schaerer) Anzi  
**stellulata** (Taylor) Mudd  
**stigmatea** Körber  
**subaethalea** B. de Lesd. (Bungartz & Nash 2004a)  
**subdispersa** Mig. (Nordin 1999)  
**tesserata** Körber (Rico et al. 2003)  
**triseptata** A. Nordin (Nordin 1999)  
**tyrolensis** Körber (Bungartz 2004)  
**uberior** Anzi  
**vernicoma** (Tuck.) Tuck. Syn.: *Gassicurtia vernicoma*  
**vilis** Th. Fr.  
 \*adjuncta Th. Fr. (Esslinger & Egan 1995) = *Amandinea adjuncta*  
*aethaleoides* (Nyl.) H. Olivier = *B. aethalea*  
*alboatra* (Hoffm.) Th. Fr. = *Diplotomma alboatrum*  
*ambigua* (Ach.) Malme = *Diplotomma ambiguum*  
*amphidexia* Imshaug ex R. C. Harris = *Buellia circumpallida*  
*atrata* (Sm.) Anzi = *Orphniospora moriopsis*  
*badioatra* (Flörke ex Sprengel) Körber = *Rhizocarpon badioatrum*  
*blasteniospora* Zahlbr. = *B. parastata*  
*blumeri* Zahlbr. = *B. dispersa*  
*caloosensis* Tuck. = *Gassicurtia catasema*  
*canescens* (Dickson) De Not. = *Diploicia canescens*  
*catasema* (Tuck.) Tuck. = *Gassicurtia catasema*  
*chloroleuca* Körber (Bungartz et al. 2007, Spribille & Björk 2008) = *Tetramelas chloroleucus*  
*chlorophaea* (Hepp ex Leighton) Lettau = *Diplotomma chlorophaeum*  
*coccinea* (Fée) Aptroot = *Gassicurtia coccinea*  
*colludens* (Nyl.) Arnold = *Rhizocarpon hochstetteri*  
*coniops* (Wahlenb.) Th. Fr. = *Amandinea coniops*  
*contermina* Arnold = *B. uberior*  
*coracina* (Nyl.) Körber = *Orphniospora moriopsis*  
*curtisii* (Tuck.) Imshaug = *Baculifera curtisii*  
*dakotensis* (H. Magn.) Bungartz = *Amandinea dakotensis*  
*dialyta* (Nyl.) Tuck. = *Chrimofulvea dialyta*  
*epipolia sensu auct.* = *Diplotomma venustum* (Nordin 1996, McCune 2017)  
*epipolia* (Ach.) Mong. = *Diplotomma alboatrum* (Nordin 1996, McCune 2017)  
*fimbriata* (Tuck.) Imshaug = *B. tesserata*

geographica (L.) Tuck. = *Rhizocarpon geographicum*  
 geophila (Flörke ex Sommerf.) Lynge = *Tetramelas geophila*, but North American reports are *T. terricolus*  
 glaucomarioidea Willey ex Tuck. = *Dactylospora glaucomarioides*  
 glaziouana (Kremp.) Müll. Arg. = *B. mamillana*  
 hassei Imshaug = *B. griseovirens*  
 imshaugiana R. C. Harris = *Baculifera imshaugiana*  
 \*inquilina Tuck. = *Dactylospora inquilina*  
 insignis (Nägeli ex Hepp) Th. Fr. = *Tetramelas insignis*  
 isidians (Nyl.) Zahlbr. = excluded as doubtful  
 japonica (Tuck.) Tuck. (Sheard et al. 2008) = *Sculptolumina japonica*  
 langloisii Imshaug = *Amandinea langloisii* (Marbach 2000)  
 lauricassiae (Fée) Müll. Arg. = *Cratiria lauricassiae*  
 lecanoroides H. Magn. = *Diplotomma venusta* (Bungartz et al. 2007)  
 lepidastroidea Imshaug ex Bungartz (Bungartz 2004) = *B. sequax* (Giralt et al. 2011)  
 leucomela Imshaug = *Amandinea leucomela*  
 malmei Lynge = *B. aethalea*  
 melanochlora (Kremp.) Müll. Arg. = *Cratiria melanochlora*  
 modesta (Kremp.) Müll. Arg. = *Cratiria americana*  
 moriopsis (A. Massal.) Th. Fr. = *Orphniospora moriopsis*  
 myriocarpa (DC.) De Not. = *Amandinea punctata*  
 nivalis (Bagl. & Carestia) Hertel ex Hafellner = *Diplotomma nivalis*  
 notabilis Lynge = *Rinodina notabilis*  
 novomexicana B. de Lesd. = *B. tyrolensis*  
 pachnidisca R. C. Harris = *Gassicurtia subpulcella*  
 papillata (Sommerf.) Tuck. = *Tetramelas papillatus*  
 parasema (Ach.) De Not. = *B. disciformis*  
 penichra (Tuck.) Hasse = *Diplotomma penichrum*  
 pertusariicola Willey ex Tuck. = *Dactylospora pertusariicola*  
 pinastri Erichsen (Erichsen 1940) = *Chrimofulvea pinastri*  
 placodiomorpha Vainio = *Orcularia placodiomorpha*  
 polyspora (Willey) Vainio = *Amandinea polyspora*  
 pruinella Imshaug = *B. tesserata*  
 pueblae B. de Lesd. = *B. dispersa*  
 pulchella (Schrader) Tuck. = *Catolechia wahlenbergii*  
 \*pulverulenta (Anzi) Jatta = *Tetramelas pulverulentus*  
 punctata (Hoffm.) A. Massal. = *Amandinea punctata*  
 punctata var. polyspora (Willey) Fink = *Amandinea polyspora*  
 radiata Tuck. = *Dimelaena radiata*  
 rappii Imshaug ex R.C. Harris = *Endohyalina rappii*  
 retrovertens Tuck. = *B. dispersa* (Bungartz et al. 2002)  
 rinodinoides Anzi = misidentification for North America  
 rinodinospora Riddle = *B. parastata*  
 rubifaciens R.C. Harris = *Chrimofulvea rubifaciens*  
 saurina W. A. Weber = *Rhizocarpon saurinum*  
 saxicola B. de Lesd. = *B. sequax*  
 scabrosa (Ach.) A. Massal. = *Epilichen scabrosus*  
 semitensis Tuck. = *B. concinna*  
 stigmaea Tuck. = *B. maculata*  
 stillingiana J. Steiner = *B. erubescens* (Bungartz et al. 2007)  
 subalbula (Nyl.) Müll. Arg. North American reports are *B. maritima* (Bungartz et al. 2007)  
 subdisciformis (Leighton) Jatta (Mohr 1901) = *B. disciformis*  
 subpostumum Nyl. (Mohr 1901) = *Rhizocarpon subpostumum*, but a misidentification for North America  
 subpulcella Vainio = *Gassicurtia subpulcella*  
 tergestina J. Steiner & Zahlbr. = *B. dispersa*



terricola A. Nordin (Nordin 1999) = *Tetramelas terricolus*  
 thomae (Tuck.) Imshaug = *B. mamillana*  
 tolucae B. de Lesd. (Nordin 1999) = *B. mexicana* (Bungartz et al. 2007)  
 triphragmioides Anzi = *Tetramelas triphragmioides*  
 tucsonensis Zahlbr. = *B. dispersa* (Bungartz et al. 2007)  
 turgescens Tuck. = *B. badia* (Bungartz & Nash 2004c)  
 turgescensoides Fink = *B. badia* (Bungartz & Nash 2004c)  
 venusta (Körber) Lettau = *Diplotomma venustum*  
 verruculosa (Sm.) Mudd = *B. aethalea*  
 verruculosa auct. = *B. ocellata*  
 wahlenbergii (Ach.) Sheard = *Catolechia wahlenbergii*  
 wheeleri R. C. Harris = *Ciposia wheeleri*  
 zahlbruckneri J. Steiner = *B. erubescens*  
 zahlbruckneri sensu Imshaug = mostly *Tetramelas chloroleucus* (Bungartz et al. 2007)

#### **BUELLIELLA** Fink

\***inops** (Triebel & Rambold) Hafellner Syn.: *Karschia inops* (Hafellner 2004a)  
 \***minimula** (Tuck.) Fink  
 \***physciicola** Poelt & Hafellner (Esslinger & Egan 1995)  
 \***poetschii** Hafellner (Hafellner et al. 2008)  
 \***trypethelii** (Tuck.) Fink  
 \*inquilina (Tuck.) Fink = *Dactylospora inquilina*  
 \*nuttallii (Calk. & Nyl.) Fink = *Dactylospora lobariella*  
 \*parmeliarum (Sommerf.) Fink = *Abrothallus parmeliarum*  
 \*saxatilis (Schaerer) Fink = *Dactylospora saxatilis* var. *saxatilis*  
 \*usneae (Rabenh.) Fink = misidentification for North America

#### **BUELLIOPSIS** A. Schneider = **BUELLIA**

papillata (Sommerf.) Fink = *Tetramelas papillata*  
 vernicoma (Tuck.) A. Schneider = *Buellia vernicoma*

#### **BULBOTHRIX** Hale

**confoederata** (W. L. Culb.) Hale Syn.: *Parmelia confoederata*  
**coronata** (Fée) Hale Syn.: *Parmelia coronata*  
**isidiza** (Nyl.) Hale  
**laevigatula** (Nyl.) Hale Syn.: *Parmelia laevigatula*  
**scortella** (Nyl.) Hale (Benatti & Elix 2012) Syn.: *Parmelia njalensis*, *P. scortella*  
 goebelii (Zenker) Hale North American reports are *B. scortella* (Benatti & Elix 2012)

#### **BULLATINA** Vězda & Poelt

aspidota (Vainio) Vězda & Poelt = *Calenia aspidotum*

#### **BUNODOPHORON** A. Massal.

**melanocarpum** (Sw.) Wedin Syn.: *Sphaerophorus melanocarpus*

#### **BURGELLA** Diederich & Lawrey (Diederich & Lawrey 2007)

\***flavoparmeliae** Diederich & Lawrey

#### **BYSSOLOMA** Trevisan

**absconditum** Farkas & Vězda (Seavey & Seavey 2012)  
**chlorinum** (Vainio) Zahlbr. (Lücking et al. 2011b)  
**leucoblepharum** (Nyl.) Vainio  
**maderense** Breuss (Breuss 2016)  
**marginatum** (Arnold) Sérus.  
**meadii** (Tuck. ex Willey) S. Ekman Syn.: *Bacidia meadii*, *Biatora meadii*, *Bilimbia meadii*  
**subdiscordans** (Nyl.) P. James

**tricholomum** (Mont.) Zahlbr. Syn.: Bilimbia tricholoma  
pubescens Vězda ex R.C. Harris (Harris 1995a) = B. meadii (Brodo et al. 2001)  
rotuliforme (Müll. Arg.) R. Sant. = B. subdiscordans

**CAERULEUM** K. Knudsen & L. Arcadia (Arcadia & Knudsen 2012)

**heppii** (Nägeli ex Körber) K. Knudsen & L. Arcadia Syns.: Acarospora aeruginosa, A. heppii,  
Myriospora heppii

**immersum** (Fink) K. Knudsen & L. Arcadia Syns.: Acarospora immersa, Myriospora immerse

**CALENIA** Müll. Arg.

**aspidotum** (Vainio) Vězda Syn.: Bullatina aspidota (Lücking et al. 2007)

**CALICIELLA** Vainio = non-lichenized fungi

**CALICIUM** Pers.

**abietinum** Pers.

**adpersum** Pers.

**carolinianum** (Tuck.) M. Prieto & Wedin Syns.: Acolium carolinianum, Cyphelium carolinianum,  
Thelomma carolinianum (Prieto & Wedin 2017)

**chlorosporum** F. Wilson

**corynellum** (Ach.) Ach.

**denigratum** (Vainio) Tibell (McMullin et al. 2012)

**glaucellum** Ach.

**hyperelloides** Nyl.

**lenticulare** Ach.

**leucochlorum** Tuck.

**lucidum** (Th. Fr.) M. Prieto & Wedin Syn.: Cyphelium lucidum (Prieto & Wedin 2017)

**montanum** Tibell (Kolb & Spribille 2001)

**notarisii** (Tul.) M. Prieto & Wedin Syn.: Cyphelium notarisii (Prieto & Wedin 2017)

**parvum** Tibell

**pinastri** Tibell (Selva 2013)

**pinicola** (Tibell) M. Prieto & Wedin Syn.: Cyphelium pinicola (Prieto & Wedin 2017)

**quercinum** Pers.

**salicinum** Pers.

**sequoiae** C. Williams & Tibell (Williams & Tibell 2008)

**tigillare** (Ach.) Pers. Syn.: Cyphelium tigillare (Prieto & Wedin 2017)

**trabinellum** (Ach.) Ach

**viride** Pers.

**adaequatum** Nyl. = **Allocalicium** adaequatum (Prieto & Wedin 2017)

albonigrum Nyl. = Mycocalicium albonigrum

#asikkalense Vainio = Chaenothecopsis pusilla

curtisii Tuck. = Phaeocalicium curtisii

\*disseminatum Ach. = Microcalicium disseminatum

#floerkei Zahlbr. = Chaenothecopsis pusilla

fuscipes Tuck. = Mycocalicium fuscipes

hemisphaericum Howard = **Allocalicium** adaequatum

hyperellum (Ach.) Ach. = C. viride

lentigerellum Tuck. = C. lenticulare

lichenoides (L.) Schumacher = C. salicinum

melanophaeum Sommerf. (Mohr 1901) = Mycocalicium albonigrum

microcephalum (Sm.) Ach. = Sphinctrina anglica

minutissimum G. Merr. = Phaeocalicium minutissimum

+parietinum Ach. (Claassen 1912) = Mycocalicium subtile

+populneum Brond. ex Duby = Phaeocalicium populneum

#pusillum auct. = Chaenothecopsis pusilla

pusiolum Ach. = Chaenothecopsis pusiola

queenslandiae (F. Wilson) Tibell = *C. chlorosporum*  
 ravenelii Tuck. = *Mycocalicium ravenelii*  
 roscidum (Ach.) Ach. nom. superfl. = *C. adpersum*  
 roscidum var. trabinellum (Ach.) Schaerer = *C. trabinellum* for North American records  
 sphaerocephalum (L.) Ach. = (?) *C. lichenoides*  
 #subpusillum Vainio = *Chaenothecopsis pusilla*  
 subquercinum Asahina = *C. lenticulare*  
 +subtile Pers. = *Mycocalicium subtile*  
 trachelinum Ach. = *C. salicinum*  
 turbinatum Pers. = *Sphinctrina turbinata*

**CALLOME** Otálora & Wedin (Otálora et al. 2014)

**multipartita** (Sm.) Otálora, P. M. Jørg. & Wedin Syn.: *Collema multipartitum*

**CALOGAYA** Arup, Frödén & Söchting (Arup et al. 2013)

**arnoldii** (Wedd.) Arup, Frödén & Söchting Syn.: *Caloplaca arnoldii*, *C. arnoldii* subsp. *obliterata*  
**biatorina** (A. Massal.) Arup, Frödén & Söchting Syn.: *Caloplaca biatorina*  
**bryochryson** (Poelt) Vondrák Syns.: *Caloplaca alaskensis*, *C. bryochryson* (Vondrák et al. 2016)  
**decipiens** (Arnold) Arup, Frödén & Söchting Syn.: *Caloplaca decipiens*  
**lobulata** (Flörke) Arup, Frödén & Söchting Syn.: *Caloplaca lobulata*  
**pusilla** (A. Massal.) Arup, Frödén & Söchting Syn.: *Caloplaca pusilla*  
 alaskensis (Wetmore) Arup, Frödén & Söchting = *C. bryochryson* (Vondrák et al. 2016)

**CALOPADIA** Vězda

**editae** Vězda ex Chaves & Lücking (Lücking et al. 2011b)  
**floridana** Hodges & Lücking (Lücking et al. 2011b)  
**fusca** (Müll Arg.) Vězda Syn.: *Lopadium fuscum*  
**imshaugii** Common & Lücking (Lücking et al. 2011b)  
**lecanorella** (Nyl.) Kalb & Vězda (Lücking et al. 2011b)  
**perpallida** (Nyl.) Vězda (Lücking et al. 2011b)  
**puiggarii** (Müll. Arg.) Vězda Syn.: *Lopadium puiggarii*  
**schomerae** F. Seavey & J. Seavey (Seavey & Seavey 2011)  
**subcoerulescens** (Zahlbr.) Vězda (Lücking et al. 2011b)

**CALOPLACA** Th. Fr.

**adnexa** Vězda  
**ahtii** Söchting  
**albovariegata** (B. de Lesd.) Wetmore Syn.: *Pyrenodesmia albovariegata*  
**alcarum** Poelt  
**approximata** (Lynge) H. Magn.  
**atroalba** (Tuck.) Zahlbr. Syn.: *Lecania perproxima* (van den Boom & Ryan 2004b)  
**atrocyanescens** (Th. Fr.) H. Olivier (Spribille et al. 2010)  
**atroflava** (Turner) Mong.  
**atrosanguinea** (G. Merr.) I. M. Lamb Syns.: *Blastenia atrosanguinea*, *Lecanora atrosanguinea*  
**borealis** (Vainio) Poelt  
**brouardii** (B. de Lesd.) Zahlbr. (Nash et al. 1998)  
**brunneola** Wetmore  
**californica** Zahlbr.  
**camptidia** (Tuck.) Zahlbr.  
**carolinae** H. Magn.  
**cascadensis** H. Magn.  
**catalinae** H. Magn.  
**celata** Th. Fr.  
**cerina** (Ehrh. ex Hedwig) Th. Fr. (Laundon 2005)  
**chlorina** (Flotow) Sandst.  
**cinnabarina** (Ach.) Zahlbr.



**conversa** (Kremp.) Jatta  
**dakotensis** Wetmore  
**demissa** (Körber) Arup & Grube Syns.: *Lecanora demissa*, *L. incusa*, *L. subolivascens* (Arup & Grube 1999)  
**diphasia** (Tuck.) Wetmore Syns.: *Lecanora diphasia*, *Blastenia diphasia*  
**diphyodes** (Nyl.) Jatta Syn.: *Lecania arctica*  
**dispersa** B. de Lesd.  
**durietzii** H. Magn  
**epiphora** (Taylor) C. W. Dodge (Wetmore 2004a)  
**\*epithallina** Lynge  
**erichansenii** S. Y. Kondr., A. Thell, Kärnefelt & Elix (Vondrák et al. 2011)  
**erythrantha** (Tuck.) Zahlbr. (Wetmore 2007b)  
**eugyra** (Tuck.) Zahlbr.  
**exsecuta** (Nyl.) Dalla Torre & Sarnth.  
**ferrugineofusca** (Vainio) H. Magn.  
**floridana** (Tuck.) S. Tucker Syns.: *Blastenia floridana*, *Lecanora floridana*  
**fraudans** (Th. Fr.) H. Olivier Syn.: *Blastenia fraudans*  
**fraxinea** I. M. Lamb  
**fulvolutea** (Arnold) Jatta (Thomson 1997)  
**granularis** (Müll. Arg.) Zahlbr. (Wetmore 2004b)  
**\*grimmiae** (Nyl.) H. Olivier  
**groenlandica** Lynge  
**insularis** Poelt  
**isidiigera** Vězda (Šoun et al. 2011)  
**kamczatica** (Savicz) Savicz (Søchting 2004)  
**\*lecanorae** F. Seavey & J. Seavey (Seavey & Seavey 2012)  
**lecanoroides** Lendemer (Lendemer et al. 2010)  
**lignicola** Wetmore (Wetmore 2009)  
**lithophila** H. Magn.  
**litoricola** Brodo  
**livida** (Hepp) Jatta  
**microphyllina** (Tuck.) Hasse Syn.: *Placodium microphyllum*  
**[Pyrenodesmia montana B. de Lesd.]**  
**neonii** B. de Lesd.  
**neotropica** Wetmore  
**nivalis** (Körber) Th. Fr.  
**[Blastenia novomexicana Fink]**  
**obamae** K. Knudsen (Knudsen 2009)  
**obesimarginata** Søchting (Søchting 2004)  
**oblongula** (H. Magn.) Wetmore Syns.: *Apatopla oblongula*, *Lecidea oblongula*  
**obscurella** (J. Lahm) Th. Fr.  
**oleicola** (J. Steiner) van den Boom & Breuss (Goward et al. 1996)  
**oregona** H. Magn.  
**parvula** Wetmore  
**peliophylla** (Tuck.) Zahlbr.  
**pellodella** (Nyl.) Hasse Syn.: *Pyrenodesmia elaeodes*  
**phaeocarpella** (Nyl.) Zahlbr.  
**phyllidizans** Wetmore (Wetmore 2003)  
**pinicola** H. Magn.  
**pollinii** (A. Massal.) Jatta  
**pratensis** Wetmore (Wetmore 2009)  
**pygmaea** Wetmore (Wetmore 2007a)  
**quercicola** H. Magn.  
**reptans** Lendemer & Hodkinson (Hodkinson & Lendemer 2012)  
**rubelliana** (Ach.) Lojka  
**[Blastenia rubrofusca B. de Lesd.]**

**saxicola** (Hoffm.) Nordin  
**schaereri** (Flörke) Zahlbr.  
**schoeferi** Poelt (Wetmore 2007a)  
**sibirica** H. Magn. (Søchting & Olech 1995)  
**sideritis** (Tuck.) Zahlbr.  
**sipeana** H. Magn.  
**sonorae** Wetmore (Wetmore 1996)  
**soralifera** Vondrák & Hrouzek (Wetmore 2009)  
**sorocarpa** (Vainio) Zahlbr.  
**spaldingii** Zahlbr.  
**spitsbergensis** H. Magn.  
**stanfordensis** H. Magn.  
**stillicidiorum** (Vahl) Lynge (Šoun et al. 2011, Arup et al. 2013)  
**subnitida** (Malme) Zahlbr.  
**subpyraceella** (Nyl.) Zahlbr.  
**tornoënsis** H. Magn.  
**turkuensis** (Vainio) Zahlbr. (Šoun et al. 2011)  
**ulcerosa** Coppins & P. James (Wetmore 2004b)  
**ulmorum** (Fink) Fink (Šoun et al. 2011) But see also Wetmore 2007b  
**urceolata** B. de Lesd.  
**verrucosa** Hasse  
**wetmorei** Nimis, Poelt & Tretiach  
**wrightii** (Tuck.) Fink  
**yuchiorum** Lendemer & C. A. Morse (Lendemer & Morse 2010)  
 alaskensis Wetmore (Wetmore 2004b) = *Calogaya bryochryson* (Vondrák et al. 2016)  
 alboatra (Tuck.) Zahlbr. (Flowers 1953/1954) Misspelling of *C. atroalba*  
 amabilis (Fink) Zahlbr. = *C. pellodella*  
 ammiospila (Wahlenb.) H. Olivier = *Blastenia ammiospila*  
 arenaria (Pers.) Müll. Arg. = *Rufoplaca arenaria*  
 arizonica H. Magn. = *Gyalolechia epiphyta* (Vondrák et al. 2016)  
 arizonica E. Rudolph non H. Magn. = *C. pellodella*  
 arnoldii (Wedd.) Zahlbr. subsp. *obliterata* (Pers.) Gaya (Gaya 2009) = *Calogaya arnoldii*  
 aurantia (Pers.) Hellbom = *Variospora aurantia*  
 aurantiaca (Lightf.) Th. Fr. = *Gyalolechia flavorubescens*  
 austrocitrina Vondrák, Říha, Arup & Søchting (Knudsen & Kocourková 2010e) = *Flavoplaca austrocitrina*  
 biatorina (A. Massal.) J. Steiner (Gaya 2009) = *Calogaya biatorina*  
 bolacina (Tuck.) Herre = *Polycauliona bolacina*  
 bolanderi (Tuck.) H. Magn. = *Polycauliona luteominea* var. *bolanderi*  
 bracteata (Hoffm.) Jatta = *Gyalolechia bracteata*  
 brattiae W. A. Weber = *Polycauliona brattiae*  
 bryochryson Poelt = *Gyalolechia bryochryson* (Vondrák et al. 2016)  
 caesiorufa (Wibel) Flagey = removed as a nomen confusum (Wetmore 1996)  
 caesiorufella (Nyl.) Zahlbr. = *C. phaeocarpella*  
 callopisma (Ach.) Th. Fr. = *Variospora aurantia*  
 castellana (Räsänen) Poelt If treated as separate from *C. invadens* (= *Pachypeltis invadens*) as done by e.g. Alstrup (1991), this species has not yet been reported for North America  
 cerinelloides (Erichsen) Poelt (Qian & Klinka 1998) = *Athallia cerinelloides*  
 chrysodeta (Vainio) Dombr. = *Leproplaca chrysodeta*  
 chrysophthalma Degel. = *Solitaria chrysophthalma*  
 cinnamomea (Th. Fr.) H. Olivier = *Blastenia ammiospila*  
 cirrochroa (Ach.) Th. Fr. = *Leproplaca cirrochroa*  
 citrina (Hoffm.) Th. Fr. = *Flavoplaca citrina*  
 cladodes (Tuck.) Zahlbr. = *Pachypeltis cladodes*  
 constipans (Nyl.) Zahlbr. = *Edrudia constipans*  
 coralloides (Tuck.) Hulting = *Polycauliona coralloides*

crenularia (With.) J. R. Laundon = *Blastenia crenularia*, but a misidentification for North America (Wetmore 1996)  
 crenulatella (Nyl.) H. Olivier (Knudsen & La Doux 2005) = *Xanthocarpia crenulatella*  
 decipiens (Arnold) Blomb. & Forssell = *Calogaya decipiens*  
 diplacia (Ach.) Riddle = doesn't occur N of Mexico (Wetmore 1994)  
 discernenda (Nyl.) Zahlbr. = *C. saxicola*  
 discoidalis (Vainio) Lynge = *Blastenia ammiospila*  
 discolor (Willey) Fink = *Gyalolechia xanthostigmoidea* (Wetmore 2001, Arup et al. 2013)  
 elegans (Link) Th. Fr. = *Rusavskia elegans*  
 epiphyta Lynge (Søchting & Tønsberg 1997) = *Gyalolechia epiphyta* (Vondrák et al. 2016)  
 erythrella (Ach.) Kieffer = *Gyalolechia flavovirescens*  
 feracissima H. Magn. = *Xanthocarpia feracissima*  
 ferruginea (Hudson) Th. Fr. = *Blastenia ferruginea*  
 festiva (Ach.) Zwackh = *Caloplaca crenularia*, but North American records incorrect according to Wetmore (1996)  
 flavocitrina (Nyl.) H. Olivier (Arup 2006) = *Flavoplaca flavocitrina*  
 flavogranulosa Arup = *Polycauliona flavogranulosa*  
 flavorubescens (Hudson) J. R. Laundon = *Gyalolechia flavorubescens*  
 flavovirescens (Wulfen) Dalla Torre & Sarnth. = *Gyalolechia flavovirescens*  
 fulgens (Sw.) Körber = *Gyalolechia fulgens*  
 furfuracea H. Magn. (Wetmore 2004a) = *Blastenia furfuracea*  
 galactophylla (Tuck.) Zahlbr. = *Squamulea galactophylla*  
 gilva (Hoffm.) Zahlbr. = *C. cerina*  
 gloriae sensu Aptroot (1996) non Werner & Llimona = *Polycauliona verruculifera* (Arup 1997)  
 granulosa (Müll. Arg.) Jatta = *Flavoplaca granulosa*  
 herbidella (Hue) H. Magn. = *Blastenia herbidella*, but a misidentification for North America (Wetmore 2004a)  
 herrei Hasse = *C. atrosanguinea*  
 holocarpa (Hoffm. ex Ach.) A. E. Wade = *Athallia holocarpa*  
 ignea Arup = *Polycauliona ignea*  
 impolita Arup = *Polycauliona impolita*  
 inconspicua Arup = *Polycauliona inconspicua*  
 intermedia (B. de Lesd.) Zahlbr. = *C. cinnabarina* (Wetmore & Kärnefelt 1999)  
 invadens Lynge (Thomson 1997) = *Pachypeltis invadens*  
 irubescens (Arnold) Zahlbr. = *Squamulea subsoluta*  
 jungermanniae (Vahl) Th. Fr. = *Bryoplaca jungermanniae*  
 lactea (A. Massal.) Zahlbr. = *Xanthocarpia lactea*  
 laeta H. Magn. = *Polycauliona luteominia* var. *luteominia*  
 lamprocheila (DC.) Flagey = *Rufoplaca arenaria*  
 leucoraea (Ach. ex Flörke) Branth = *Bryoplaca sinapisperma*  
 lobulata (Flörke) B. de Lesd. = *Calogaya lobulata*  
 ludificans Arup = *Polycauliona ludificans*  
 luteoalba (Turner) Th. Fr. = *Cerothallia luteoalba*  
 luteominia (Tuck.) Zahlbr. var. *luteominia* = *Polycauliona luteominia* var. *luteominia*  
 luteominia var. *bolanderi* (Tuck.) Arup = *Polycauliona luteominia* var. *bolanderi*  
 marina (Wedd.) Zahlbr. subsp. *americana* Arup = *Flavoplaca marina*  
 marmorata (Bagl.) Jatta (Knudsen & La Doux 2005) = *Xanthocarpia marmorata*  
 microthallina (Wedd.) Zahlbr. = *Flavoplaca microthallina*  
 modesta (Zahlbr.) Fink = *Squamulea subsoluta*  
 murorum (Hoffm.) Th. Fr. = *C. saxicola*  
 nashii Nav.-Ros., Gaya & Hladun (Knudsen & La Doux 2005) = *Polycauliona nashii*  
 obliterans (Nyl.) Blomb. & Forssell = *Leproplaca obliterans*  
 oxfordensis Fink = *Rufoplaca oxfordensis*  
 parviloba Wetmore (Wetmore 2003) = *Squamulea parviloba*  
 paulsenii (Vainio) Zahlbr. = misidentification for North America  
 persimilis Wetmore (Wetmore 2004b) = *Gyalolechia persimilis*



phlogina (Ach.) Flagey (Richardson et al. 2009, Vondrák et al. 2010) = *Polycauliona phlogina*  
 pusilla (A. Massal.) Zahlbr. (Gaya 2009) = *Calogaya pusilla*  
 pyracea (Ach.) Zwackh (Arup 2009) = *Athallia pyracea*  
 rosei Hasse = *Polycauliona rosei*  
 sarcopisioides (Körber) Zahlbr. = *C. obscurella*  
 saxifragarum Poelt = *Athallia saxifragarum*  
 scopularis (Nyl.) Lettau = *Athallia scopularis*  
 scotoplaca (Nyl.) H. Magn. = misidentification for North America (Wetmore 1996)  
 sinapisperma (Lam. & DC.) Maheu & A. Gillet = *Bryoplaca sinapisperma*  
 soorediata (Vainio) Du Rietz = *Rusavskia soorediata*  
 splendens (Darb.) Zahlbr. = *Rusavskia elegans*  
 squamosa (B. de Lesd.) Zahlbr. = *Squamulea squamosa*  
 stantonii W. A. Weber ex Arup = *Gyalolechia stantonii*  
 stellata Wetmore & Kärnefelt (Wetmore & Kärnefelt 1998) = *Polycauliona stellata*  
 stipitata Wetmore (Wetmore 1999) = *Gyalolechia stipitata*  
 submexicana (B. de Lesd.) Zahlbr. = *Candelina submexicana*  
 subnigricans H. Magn. = *C. atrosanguinea*  
 subolivacea (Th. Fr.) Lynge = *Parvoplaca tirolensis*  
 subsoluta (Nyl.) Zahlbr. (Wetmore 2003) = *Squamulea subsoluta*  
 teicholyta (Ach.) J. Steiner = misidentification for North America (Wetmore 1996)  
 tetraspora (Nyl.) H. Olivier = *Bryoplaca tetraspora*  
 texana Wetmore & Kärnefelt (Wetmore & Kärnefelt 1998) = *Wetmoreana texana*  
 thallincola (Wedd.) Du Rietz Not in North America  
 tirolensis Zahlbr. = *Parvoplaca tirolensis*  
 tominii (Savicz) Ahlner (Wetmore 2001) = *Xanthocarpia tominii*  
 trachyphylla (Tuck.) Zahlbr. = *Xanthomendoza trachyphylla*  
 variabilis (Pers.) Müll. Arg. = *Pyrenodesmia variabilis*  
 velana (A. Massal.) Du Rietz = *Variospora velana*  
 verruculifera (Vainio) Zahlbr. = *Polycauliona verruculifera*  
 vicaria H. Magn. = *C. kamczatica*  
 vitellinula (Nyl.) H. Olivier = *Athallia vitellinula*  
 xanthostigmoidea (Räsänen) Zahlbr. = *Gyalolechia xanthostigmoidea*

**CALOPLACOPSIS** (Zahlbr.) B. de Lesd. = **CANDELARIELLA**  
 submexicana (B. de Lesd.) B. de Lesd. = *Candelina submexicana*

**CALVITIMELA** Hafellner (Hafellner & Türk 2001)  
**aglaea** (Sommerf.) Hafellner Syn.: *Lecidea aglaea*, *L. aglaeida* (Hertel & Andreev 2003), *L. shushanii*, *Tephromela aglaea*, *T. aglaeida*  
**armeniaca** (DC.) Hafellner Syn.: *Lecidea armeniaca*, *Tephromela armeniaca*  
**cuprea** Haugan & Timdal (Lendemer & Harris 2016)  
**melaleuca** (Sommerf.) R. Sant. (Spribille et al. 2011, Dillman et al. 2012)  
**perlata** (Haugan & Timdal) R. Sant. (Bendiksby et al. 2015)  
**talayana** (Haugan & Timdal) Andreev (Hodkinson et al. 2009)  
**testaceoatra** (Vainio) Hafellner Syn.: *Lecidea testaceoatra*, *L. arctogena*, *Tephromela testaceoatra*

**CAMPYLOTHELIUM** Müll. Arg.  
 amylosporum (Vainio) R. C. Harris = *Dictyomeridium amylosporum*  
 nitidum Zahlbr. = *Astrothelium megaspermum*

**CANDELARIA** A. Massal.  
**concolor** (Dickson) Stein  
**fibrosa** (Fr.) Müll. Arg.  
**pacifica** M. Westb. & Arup (Westberg & Arup 2011)  
 concolor var. *effusa* (Tuck.) G. Merr. & Burnham = *C. concolor* (Lendemer & Westberg 2010)

## **CANDELARIELLA** Müll. Arg.

- aggregata** M. Westb. (Westberg 2007a)
- antennaria** Räsänen
- arctica** (Körber) R. Sant.
- aurella** (Hoffm.) Zahlbr.
- biatorina** M. Westb. (Westberg 2007c)
- blastidiata** [Yakovchenko \(Yakovchenko et al. 2017\)](#)
- borealis** M. Westb. (Westberg 2007b)
- californica** M. Westb. (Westberg 2007a)
- canadensis** H. Magn.
- citrina** B. de Lesd.
- clarkii** E. Tripp & Lendemer (Tripp & Lendemer 2015)
- complanata** M. Westb. (Westberg 2007a)
- coralliza** (Nyl.) H. Magn.
- corviniscalensis** C. A. Morse & M. Westb. (Westberg et al. 2011b)
- deppeanae** M. Westb. (Westberg 2007a)
- efflorescens** R. C. Harris & W. R. Buck
- granuliformis** M. Westb. (Westberg et al. 2011b)
- immarginata** M. Westb. (Westberg 2007a)
- kansuensis** H. Magn. (Westberg 2007a)
- lutella** (Vainio) Räsänen
- minuta** Reichert & Galun (Weber & Wittman 2000)
- placodizans** (Nyl.) H. Magn.
- rosulans** (Müll. Arg.) Zahlbr.
- spraguei** (Tuck.) Zahlbr.
- subdeflexa** (Nyl.) Lettau
- vitellina** (Hoffm.) Müll. Arg.
- xanthostigma** (Ach.) Lettau
- xanthostigmoides** (Müll. Arg.) R. W. Rogers (Lendemer & Westberg 2010)
- athallina (Wedd.) Du Rietz Excluded from North America (Westberg et al. (2011b)
- cerinella (Flörke) Zahlbr. = *C. aurella*
- corallizoides M. Westb. Erroneously listed here; reported only from Mexico (Westberg 2007a)
- crenulata (Wahlenb.) Zahlbr. = *C. arctica*
- deflexa (Nyl.) Zahlbr. = *C. aurella*, but N. American reports are mostly *C. antennaria* (Westberg 2007a)
- dispersa (Räsänen) Hakul. Excluded from North America (Westberg et al. 2011b)
- epixantha auct. = *C. aurella*
- epixantha (Ach.) Sandst. = *Candelariella aurella*
- holophaea (Mont.) Zahlbr. = *Solenopsora holophaea*
- hudsonica Hakul. = *C. canadensis*
- kuusamoensis Räsänen var. *areolata* Hakul. Excluded from North America (Westberg et al. 2011b)
- luteoalba (Turner) Lettau = *Cerothallia luteoalba*
- medians (Nyl.) Sm. North American reports probably refer to *Candelina submexicana*
- plumbea Poelt & Vězda Excluded from North America (Westberg et al. 2011b)
- reflexa (Nyl.) Lettau = misidentification for North America (Westberg et al. 2007)
- stenospora B. de Lesd. Excluded from North America (Westberg et al. 2011b)
- submexicana B. de Lesd. = *Candelina submexicana*
- terrigena Räsänen = *C. citrina* (Westberg 2007a, Westberg 2009)

## **CANDELINA** Poelt

- mexicana** (B. de Lesd.) Poelt
- submexicana** (B. de Lesd.) Poelt Syns.: *Caloplacopsis submexicana*, *Candelariella submexicana*, *Caloplaca submexicana*. North American reports of *Candelariella medians* (Nyl.) Sm. probably belong here.

## **CANOMACULINA** Elix & Hale = **PARMOTREMA** (Blanco et al. 2005)

conferenda (Hale) Elix = Parmotrema conferendum  
haitiensis (Hale) Elix = Parmotrema haitiensis  
neotropica (Kurok.) Elix = Parmotrema neotropicum  
subsumpta (Nyl.) Elix = Parmotrema subsumptum  
subtinctoria (Zahlbr.) Elix = Parmotrema subtinctorium

#### **CANOPARMELIA** Elix & Hale

**alabamensis** (Hale & McCull.) Elix (Elix 2001) Syns: Paraparmelia alabamensis, Parmelia alabamensis, Pseudoparmelia alabamensis  
**amazonica** (Nyl.) Elix & Hale Syns.: Parmelia amazonica, Pseudoparmelia amazonica  
**caroliniana** (Nyl.) Elix & Hale Syns.: Parmelia caroliniana, Pseudoparmelia caroliniana  
**cryptochlorophaea** (Hale) Elix & Hale Syns.: Parmelia cryptochlorophaea, Pseudoparmelia cryptochlorophaea  
**martinicana** (Nyl.) Elix & Hale Syns.: Parmelia martinicana, Pseudoparmelia martinicana  
**salacinifera** (Hale) Elix & Hale Syns.: Parmelia salacinifera, Pseudoparmelia salacinifera  
**texana** (Tuck.) Elix & Hale Syns.: Parmelia texana, Pseudoparmelia texana  
amabilis Heiman & Elix (Heiman & Elix 1999) = Canoparmelia caroliniana (Lendemer & Ruiz 2015)  
crozalsiana (B. de Lesd. ex Harm.) Elix & Hale = Crespoa crozalsiana

#### **CAPRONIA** Sacc.

\***thamnoliae** Zhurb. (Zhurbenko 2012)  
\***peltigerae** (Fuckel) D. Hawksw. (Zhurbenko & Laursen 2003) = Knufia peltigerae (Réblová et al. 2013)

#### **CARBACANTHOGRAPHIS** Staiger & Kalb (Staiger 2002)

**candidata** (Nyl.) Staiger & Kalb Syn.: Graphis candidata (Staiger 2002)  
**marcescens** (Fée) Staiger & Kalb Syn.: Graphina marcescens, G. plittii, Graphis marcescens (Staiger 2002)  
**muriformis** E. Tripp & Lendemer (Tripp et al. 2010)

#### **CARBONEA** (Hertel) Hertel

\***aggregantula** (Müll. Arg.) Diederich & Triebel (Goward et al. 1996)  
**assimilis** (Körber) Hafellner & Hertel Syn.: Lecidea assimilis  
**atronivea** (Arnold) Hertel Syn.: Lecidea atronivea  
\***intrudens** (H. Magn.) Hafellner (Dillman et al. 2012) Syn.: Lecidea intrudens  
**latypizodes** (Nyl.) Knoph & Rambold (Knoph et al. 2004) Syns.: Lecidea austrocalifornica, L. subplebeia (Knudsen et al. 2008b), L. subcontinuior, L. amabilis, Mycobilimbia austrocalifornica  
\***supersparsa** (Nyl.) Hertel (Diederich 2003)  
\***vitellinaria** (Nyl.) Hertel Syn.: Lecidea vitellinaria  
**vorticosa** (Flörke) Hertel Syn.: Lecidea vorticosa  
intrusa (Th. Fr.) Rambold & Triebel (Hinds et al. 2002) = Scoliciosporum intrusum

#### **CARBONICOLA** Bendiksby & Timdal (Bendiksby & Timdal 2013)

**anthracophila** (Nyl.) Bendiksby & Timdal Syns.: Biatora anthracophila, Hypocenomyce anthracophila, Lecidea anthracophila, Psora anthracophila  
**myrmecina** (Ach.) Bendiksby & Timdal Syn.: Hypocenomyce castaneocinerea

#### **CATAPYRENIUM** Flotow (Breuss 1996)

**cinereum** (Pers.) Körber Syn.: Dermatocarpon cinereum, D. hepaticum  
**daedaleum** (Kremp.) Stein Syn.: Dermatocarpon daedaleum  
**globosum** J. W. Thomson  
**granulosum** (B. de Lesd.) J. W. Thomson Syns.: Endopyrenium crustaceum, E. granulosum, Dermatocarpon granulosum  
**psoromoides** (Borrer) R. Sant.  
**squamellum** (Nyl. ex Hasse) J. W. Thomson Syn.: Dermatocarpon squamellum  
acarosporoides (Zahlbr.) J. W. Thomson = Placidium acarosporoides



andicolum Breuss = Placidium andicola  
 caeruleopulvinum J. W. Thomson = Placopyrenium caeruleopulvinum  
 chilense (Räsänen) Breuss = Placidium chilense  
 #compactum (A. Massal.) R. Sant. = Heteroplacidium compacta  
 congestum Breuss & McCune = Heteroplacidium congestum  
 heppioides (Zahlbr.) J. W. Thomson = Placopyrenium heppioides  
 lachneum (Ach.) R. Sant. = Placidium lachneum  
 lacinulatum (Ach.) Breuss = Clavascidium lacinulatum  
 michelii (A. Massal.) R. Sant. = Placidium michelii  
 norvegicum Breuss = Placidium norvegicum  
 plumbeum (B. de Lesd.) J. W. Thomson (p.p.) = Verrucaria inficiens (Breuss 1998)  
 podolepis Breuss = Placidium podolepis  
 rufescens (Ach.) Breuss = Placidium rufescens  
 schaereri (Fr.) R. Sant. = Placopyrenium coloradoense for North American reports  
 squamulosum (Ach.) Breuss = Placidium squamulosum  
 tuckermanii (Rav. ex Mont.) J. W. Thomson = Placidium arboreum  
 umbrinum Breuss = Clavascidium umbrinum  
 waltheri (Kremp.) Körber = Involucropyrenium waltheri  
 zahlbruckneri (Hasse) J. W. Thomson = Placopyrenium stanfordii

#### **CATILLARIA** A. Massal.

**atomarioides** (Müll. Arg.) H. Kilius (Kocourková et al. 2010)  
**chalybeia** (Borrer) A. Massal.  
**contristans** (Nyl.) Zahlbr. (Miller et al. 2005)  
**cupressi** Zahlbr.  
**erysiboides** (Nyl.) Th. Fr. Syn.: Arthonia carneorufa (Printzen & Tønsberg 1999)  
**flavens** (Willey) Fink  
**glauconigrans** (Tuck.) Hasse  
**lenticularis** (Ach.) Th. Fr.  
**\*lobariicola** (Alstrup) Coppins & Aptroot (Spribille et al. 2010)  
**musciicola** Lynge  
**nigroclavata** (Nyl.) Schuler Syn.: Bacidia declinis, Bilimbia declinis, Lecidea declinis  
**picila** (A. Massal.) Coppins (McCune & Rosentreter 2014)  
**\*stereocaulorum** (Th. Fr.) H. Olivier (Zhurbenko 2010)  
**subnegans** (Nyl.) Boistel  
**subviridis** (Nyl.) Zahlbr.  
**terrena** (Willey) Zahlbr.  
 arctica Lynge = Toninia philippea  
 athallina (Hepp) Hellbom = Toninia athallina  
 atropurpurea (Schaerer) Th. Fr. = Catinaria atropurpurea  
 bahusiensis (Blomb.) Th. Fr. = Tylothallia biformigera  
 biformigera (Leighton) H. Magn. = Tylothallia biformigera  
 bouteillei (Desm.) Zahlbr. = Fellhanera bouteillei  
 columbiana (G. Merr.) W. Noble = Megalaria columbiana  
 crystallifera R. Kilius = Toninia lutosa  
 endochroma (Fée) Zahlbr. = Catillochroma endochroma  
 franciscana (Tuck.) Herre = Lecania franciscana  
 globulosa (Flörke) Th. Fr. = Biatora globulosa  
 graniformis (K. G. Hagen) Vainio = Cliostomum corrugatum  
 griffithii (Sm.) Malme = Cliostomum griffithii  
 groenlandica Lynge = a Lecania sp.  
 grossa (Pers. ex Nyl.) Körber = Megalaria grossa  
 \*heerii (Hepp) H. Olivier = Scutula heerii  
 \*herrii (Hepp) Fink (Fink 1935) Orthographic variant for C. heerii  
 jemtlandica Th. Fr. & Almq. = Megalaria jemtlandica  
 kansuensis H. Magn. = Toninia philippea

laureri Hepp ex Th. Fr. = Megalaria laureri  
 leptocheila (Tuck.) Riddle = Megalaria leptocheila  
 micrococca (Körber) Th. Fr. = Micarea micrococca (Fryday & Coppins 2007)  
 philippea (Mont.) A. Massal. = Toninia philippea (Thomson 1997)  
 prasina (Fr.) Th. Fr. = Micarea prasina  
 pulverea (Borrer) Lettau = Megalaria pulverea  
 schaereri (Fr.) R. Sant. = Placocarpus schaereri, but a misidentification for N.A. (McCune et al. 2014b)  
 sculpturata H. Magn. = Toninia sculpturata  
 sphaeroides (A. Massal.) Schuler = Mycobilimbia pilularis  
 subnitida Hellbom = Toninia subnitida  
 subnigrata (Nyl.) Blomb. & Forssell = a European species  
 superflua (Müll. Arg.) Zahlbr. = ?Megalaria grossa (Printzen 1995)  
 tricolor auct. = Cliostomum griffithii  
 tristis (Müll. Arg.) Arnold = Toninia subnitida

#### **CATILLOCHROMA** Kalb (Kalb 2007)

**endochromum** (Fée) Kalb (Lücking et al. 2011b) Syn.: Catillaria endochroma  
 albocinctum (Degel.) Kalb = Megalaria albocincta (Fryday & Lendemer 2010)  
 leptocheilum (Tuck.) Kalb = Megalaria leptocheila (Fryday & Lendemer 2010)

#### **CATINARIA** Vainio

**atropurpurea** (Schaerer) Vězda & Poelt Syns.: Biatora atropurpurea, Catillaria atropurpurea  
**brodoana** R. C. Harris & W. R. Buck (Lendemer et al. 2016a)  
**radulae** R. C. Harris & W. R. Buck (Lendemer et al. 2016a)  
**subcorallina** (Zahlbr.) Brako Syn.: Phyllopsora subcorallina  
 albocincta Degel. = Megalaria albocincta  
 grossa (Pers. ex Nyl.) Vainio = Megalaria grossa  
 laureri (Hepp ex Th. Fr.) Degel. = Megalaria laureri  
 leucoplaca auct. = Megalaria grossa  
 versicolor (Fée) Sipman = Megalaria versicolor

#### **CATOLECHIA** Flotow

**wahlenbergii** (Ach.) Körber Syns.: Buellia wahlenbergii, B. pulchella

#### **CAVERNULARIA** Degel. = **HYPOGYMNIA** (Miądlikowska et al. 2011)

hultenii Degel. = Hypogymnia hultenii  
 lophyrea (Ach.) Degel. = Hypogymnia lophyrea

#### **CECIDONIA** Triebel & Rambold

\***umbonella** (Nyl.) Triebel & Rambold Syn.: Lecidea umbonella  
 \***xenophana** (Körber) Triebel & Rambold (Hinds et al. 2002) Syn.: Lecidea columnata (Coppins & Fryday 2006b)

#### **CELIDIUM** Tul. = **ARTHONIA**

\*varians Arnold = Arthonia varians (Hawksworth 2003)

#### **CELOTHELIUM** A. Massal. (Harris 1995a)

**aciculiferum** (Nyl.) Vainio (Harris 1995a)

#### **CEPHALOPHYSIS** (Hertel) H. Kilius

**leucospila** (Anzi) H. Kilius & Scheid. Syn.: Lecidea ultima

#### **CERCIDOSPORA** Körber

\***caudata** Kernst. (Navarro-Rosinés et al. 2004)  
 \***cecidiformans** Grube & Hafellner (Hafellner et al. 2002, Spribille et al. 2010)  
 \***cladoniicola** Alstrup (Lendemer et al. 2008c)



- #**decolorella** (Nyl.) O. E. Erikss. & J. Z. Yue
- \***epicarphinea** (Nyl.) Grube & Hafellner
- \***epipolytropa** (Mudd) Arnold
- \***exiguella** (Nyl.) Arnold (Spribille et al. 2010)
- \***lobothalliae** Nav.-Ros. & Calat. (Navarro-Rosinés et al. 2004)
- \***macrospora** (Uloth) Hafellner & Nav.-Ros. (Navarro-Rosinés et al. 2004)
- \***ochrolechia** Zhurb. (Zhurbenko 2013)
- \***punctillata** (Nyl.) R. Sant. (Zhurbenko 2013)
- \***soror** Obermayer & Triebel (McCune & Ponzetti 2005)
- \***stereocaulorum** (Arnold) Hafellner (Alstrup & Cole 1998)
- \***thamnoliae** Zhurb. (Zhurbenko 2012)
- \***verrucosaria** (Lindsay) Arnold (Navarro-Rosinés et al. 2004)
- \***xanthoriae** (Wedd.) R. Sant. (Knudsen & Lendemer 2006)
- \***ulothii** Körber = *C. macrospora* (Navarro-Rosinés & Hafellner 2004)

**CEROTHALLIA** Arup, Frödén & Söchting (Arup et al. 2013)

**luteoalba** (Turner) Arup, Frödén & Söchting Syn.: *Caloplaca luteoalba*

**CETRADONIA** J.-C. Wei & Ahti (Wei & Ahti 2002)

**linearis** (Evans) J.-C. Wei & Ahti Syn.: *Gymnoderma linearis*, *Cladonia linearis*

**CETRARIA** Ach.

- aculeata** (Schreber) Fr. Syns.: *Coelocaulon aculeatum*, *Cornicularia aculeata*
- arenaria** Kärnefelt
- ericetorum** Opiz subsp. **ericetorum**
- ericetorum** subsp. **reticulata** (Räsänen) Kärnefelt
- islandica** (L.) Ach. subsp. **islandica**
- islandica** subsp. **crispiformis** (Räsänen) Kärnefelt
- islandica** subsp. **orientalis** (Asahina) Kärnefelt
- kamezatica** Savicz
- laevigata** Rass.
- muricata** (Ach.) Eckfeldt Syn.: *Coelocaulon muricatum*
- nigricans** Nyl.
- odontella** (Ach.) Ach. Syns.: *Cornicularia odontella*, *Coelocaulon odontellum*
- agnata** (Nyl.) Kristinsson = *Melanelia agnata*
- alaskana** W. L. Culb. & C. F. Culb. = *Cetrelia alaskana*
- andrejevii** Oxner = *Arctocetraria andrejevii*
- arborialis** (Zahlbr. ) Howard = *Tuckermannopsis subalpina*
- atlantica** (Tuck.) Du Rietz = *Platismatia tuckermanii*
- aurescens** Tuck. = *Ahtiana aurescens*
- californica** Tuck. = *Kaernefeltia californica*
- canadensis** (Räsänen) Räsänen = *Vulpicida canadensis*
- chicita** W. L. Culb. = *Cetrelia chicitae*
- chlorophylla** (Willd.) Vainio = *Tuckermannopsis chlorophylla*
- chrysantha** Tuck. = *Asahinea chrysantha*
- ciliaris** Ach. = *Tuckermannopsis ciliaris*
- ciliaris** Ach. var. **halei** (W. L. Culb. & C. F. Culb.) Ahti = *Tuckermannopsis americana*
- commixta** (Nyl.) Th. Fr. = *Cetrariella commixta*
- coralligera** (W. A. Weber) Hale = *Tuckermanella coralligera*
- crispa** (Ach.) Nyl. = *C. ericetorum* subsp. *ericetorum*
- cucullata** (Bellardi) Ach. = *Flavocetraria cucullata*
- culbersonii** Hale = *Melanelia culbersonii*
- delisei** (Bory ex Schaerer) Nyl. = *Cetrariella delisei*
- elenkinii** Krog = *Arctocetraria nigricascens*
- fahlunensis** (L.) Schreber = *Cetrariella commixta*
- fastigiata** (Delise ex Nyl.) Kärnefelt = *Cetrariella fastigiata*

fendleri (Nyl.) Tuck. = Tuckermanella fendleri  
 glauca (L.) Ach. = Platismatia glauca  
 halei W. L. Culb. & C. F. Culb. = Tuckermannopsis americana  
 hepatizon (Ach.) Vainio = Melanelia hepatizon  
 herrei Imshaug = Platismatia herrei  
 hiascens (Fr.) Th. Fr. = Cetrariella delisei  
 idahoensis Essl. = Esslingeriana idahoensis  
 inermis (Nyl.) Krog = Masonhalea inermis  
 juniperina (L.) Ach. = Old North American records are Vulpicida canadensis or V. viridis  
 juniperina var. jerseyi Gyelnik (Gyelnik 1931) = V. viridis  
 lacunosa Ach. = Platismatia lacunosa  
 lacunosa Ach. var. atlantica Tuck. = Platismatia tuckermanii  
 merrillii Du Rietz = Kaernefeltia merrillii  
 nigricascens (Nyl.) Elenkin = Arctocetraria nigricascens  
 nivalis (L.) Ach. = Flavocetraria nivalis  
 norvegica (Lynge) Du Rietz = Platismatia norvegica  
 oakesiana Tuck. = Usnocetraria oakesiana  
 orbata (Nyl.) Fink = Tuckermannopsis orbata  
 pallidula Tuck. ex Riddle = Ahtiana pallidula  
 pinastri (Scop.) Gray = Vulpicida pinastri  
 platyphylla Tuck. = Tuckermannopsis platyphylla  
 polyschiza (Nyl.) Jatta = Melanelia hepatizon  
 richardsonii Hooker = Masonhalea richardsonii  
 scholanderi Llano = Asahinea scholanderi  
 scutata (Wulfen) Poetsch = Tuckermannopsis sepincola  
 scutata auct. = Tuckermannopsis chlorophylla  
 sepincola (Ehrh.) Ach. = Tuckermannopsis sepincola  
 sibirica H. Magn. = Arctocetraria nigricascens  
 simmonsii Krog = Arctocetraria andrejevii  
 stenophylla (Tuck.) G. Merr. = Platismatia stenophylla  
 subalpina Imshaug = Tuckermannopsis subalpina  
 tilesii Ach. = Vulpicida juniperina (Saag et al. 2014)  
 tristis (Weber ex F. H. Wigg.) Fr. = Cornicularia normoerica (Santesson et al. 2004)  
 tuckermanii Oakes non Herre = Platismatia tuckermanii  
 tuckermanii Herre non Oakes = Platismatia herrei  
 viridis Schwein. = Vulpicida viridis  
 weberi Essl. = Tuckermanella weberi

CETRARIASTRUM Sipman = HYPOTRACHYNA (Divakar et al. 2013)  
 catawbiense (Degel.) W. L. Culb. & C. F. Culb. = Hypotrachyna catawbiensis

#### **CETRARIELLA** Kärnefelt & A. Thell

**commixta** (Nyl.) A. Thell & Kärnefelt (Thell et al. 2009) Syns.: Cetraria commixta, C. fahlunensis, Melanelia commixta  
**delisei** (Schaerer) Kärnefelt & A. Thell Syn.: Cetraria delisei, C. hiascens  
**fastigiata** (Nyl.) Kärnefelt & A. Thell Syn.: Cetraria fastigiata

#### **CETRELIA** W. L. Culb. & C. F. Culb.

**alaskana** (C. F. Culb. & W. L. Culb.) W. L. Culb. & C. F. Culb. Syn.: Cetraria alaskana  
**cetrarioides** (Duby) W. L. Culb. & C. F. Culb.  
**chicita** (W. L. Culb.) W. L. Culb. & C. F. Culb. Syn.: Cetraria chicitae  
**monachorum** (Zahlbr.) W. L. Culb. & C. F. Culb.  
**olivetorum** (Nyl.) W. L. Culb. & C. F. Culb. Syns.: Parmelia olivetorum, P. olivaria

#### **CHAENOTHECA** Th. Fr.



**balsamconensis** J. L. Allen & McMullin (Allen & McMullin 2015)  
**brachypoda** (Ach.) Tibell Syn.: Coniocybe sulphurea  
**brunneola** (Ach.) Müll. Arg.  
**chlorella** (Ach.) Müll. Arg.  
**chrysocephala** (Ach.) Th. Fr. Syn.: Coniocybe gracilescens  
**cinerea** (Pers.) Tibell  
**erkahomattiorum** Selva (Selva 2013)  
**ferruginea** (Turner ex Sm.) Mig.  
**floridana** R. C. Harris (Harris 1995a)  
**furfuracea** (L.) Tibell Syn.: Coniocybe furfuracea  
**gracilenta** (Ach.) J.-E. Mattsson & Middelb. Syn.: Cybebe gracilenta (Tibell 2001)  
**gracillima** (Vainio) Tibell Syn.: Coniocybe gracillima  
**hispidula** (Ach.) Zahlbr.  
**hygrophila** Tibell (Selva & Tibell 1999)  
**laevigata** Nádv.  
**nitidula** Tibell (Tibell & Koffman 2002)  
**olivaceorufa** Vainio (Rikkinen 1998)  
**phaeocephala** (Turner) Th. Fr.  
**servitii** Nádv. (Selva & Tibell 1999)  
**sphaerocephala** Nádv. (Selva & Tibell 1999)  
**stemonea** (Ach.) Müll. Arg.  
**subroscida** (Eitner) Zahlbr.  
**trichialis** (Ach.) Th. Fr.  
**xyloxena** Nádv.  
 carthusiae (Harm.) Lettau = C. chlorella  
 melanophaea (Ach.) Zwackh = C. ferruginea  
 savonica (Räsänen) Tibell = Chaenothecopsis savonica  
 schaereri (De Not.) Zahlbr. = C. cinerea  
 sulphurea (Retz.) Middleborg & J.-E. Mattsson = C. brachypoda  
 trichialis var. cinerea (Pers.) Blomb. & Forssell = C. cinerea

#### CHAENOTHECOPSIS Vainio

<sup>+</sup>**aeruginosa** Goward & E. B. Peterson (Peterson & Goward 2016)  
**amurensis** Titov (Selva 2013)  
<sup>\*</sup>**arthoniae** Tibell (Dillman et al. 2012)  
<sup>+</sup>**asperopoda** Titov (Selva & Tibell 1999)  
<sup>\*</sup>**australis** Tibell (Selva 2014)  
<sup>\*</sup>**brevipes** Tibell  
<sup>+</sup>**claydenii** Selva & Tuovila (Selva & Tuovila 2016)  
<sup>\*</sup>**consociata** (Nádv.) A.F.W. Schmidt  
<sup>+</sup>**debilis** (Turner & Borrer ex Sm.) Tibell  
<sup>+</sup>**diabolica** Rikkinen & Tuovila (Tuovila et al. 2011, 2012)  
<sup>\*</sup>**dibbleandersoniarum** Selva (Selva 2013)  
<sup>+</sup>**dolichocephala** Titov (Selva 2010)  
<sup>+</sup>**edbergii** Selva & Tibell (Selva & Tibell 1999)  
<sup>\*</sup>**epithallina** Tibell  
<sup>+</sup>**eugenia** Titov (Selva & Tuovila 2016)  
<sup>+</sup>**exilis** Tibell (Selva & Tibell 1999)  
<sup>+</sup>**fennica** (Laurila) Tibell (Selva 2014)  
<sup>+</sup>**haematopus** Tibell (Selva & Tibell 1999)  
<sup>+</sup>**irregularis** Titov (Selva & Tibell 1999)  
<sup>\*</sup>**kalbii** Tibell & K. Ryman (Lendemer et al. 2008c)  
<sup>\*</sup>**lecanactidis** Tibell (Hardman et al. 2016)  
<sup>+</sup>**marcineae** Selva (Selva 2013)  
<sup>+</sup>**montana** Rikkinen (Rikkinen 2003b)  
<sup>+</sup>**nana** Tibell

\***nigra** Tibell (Harris & Lendemer 2005, Spribille & Björk 2008)  
 +**nigripunctata** Rikkinen (Rikkinen 2003a)  
 +**nivea** (F. Wilson) Tibell (Hardman et al. 2016)  
 +**norstictica** R. C. Harris (Harris 1995a)  
 +**oregana** Rikkinen (Rikkinen 2003b, Tuovila et al., 2011, 2012)  
 \***ochroleuca** (Körber) Tibell & K. Ryman (Selva & Tibell 1999)  
 \***pilosa** Tibell & Kalb (Harris 1995a)  
 #**pusilla** (Ach.) A.F.W. Schmidt Syns.: Calicium pusillum, C. floerkei, C. subpusillum, C. asikkalense  
 #**pusiola** (Ach.) Vainio Syns.: Calicium pusiolum, Mycocalicium pusiolum  
 +**rappii** (Nádv.) R. C. Harris (Harris 1995a) Syn.: Mycocalicium rappii  
 +**resinicola** Tibell & Titov (Selva 2010)  
 +**rubescens** Vainio  
 \***rubina** Tibell (Peterson & Rikkinen 1999)  
 +**savonica** (Räsänen) Tibell Syns.: Mycocalicium savonicum, Chaenotheca savonica  
 +**sitchensis** Rikkinen (Rikkinen 1999)  
 \***subparoica** (Nyl.) Tibell (Peterson & Rikkinen 1999)  
 +**tasmanica** Tibell (Selva & Tibell 1999)  
 +**tsugae** Rikkinen (Rikkinen 1999)  
 +**ussuriensis** Titov (Peterson & Rikkinen 1999)  
 +**vainioana** (Nádv.) Tibell (Hardman et al. 2016)  
 \***viridialba** (Kremp.) A.F.W. Schmidt  
 #**viridireagens** (Nádv.) A.F.W. Schmidt  
 #**lignicola** (Nádv.) A.F.W. Schmidt = C. pusiola  
 #**subpusilla** (Vainio) Tibell = C. pusilla  
 +**thujae** Rikkinen (Selva & Tibell 1999) = C. tsugae (Selva 2010)  
 +**zebrina** Rikkinen & Tuovila (Tuovila et al. 2011) = C. oregana (Tuovila et al. 2012)

#### CHALARA (Corda) P. A. Saccardo

\***lobariae** Etayo (Zhurbenko & Dillman 2010)

#### CHAPSA A. Massal. (Frisch 2006)

**alborosella** (Nyl.) A. Frisch Syns.: Ocellularia alborosella, Thelotrema alborosellum (Frisch 2006)  
**boninensis** (Tat. Matsumoto) Rivas Plata & Mangold (Seavey et al. 2017)  
**chionostoma** (Nyl.) Rivas Plata & Mangold (Lücking et al. 2011b)  
**leprocarpa** (Nyl.) A. Frisch Syns.: Graphina leptocarpa, Thelotrema leptocarpum (Frisch 2006)  
**paralbida** (Riddle) Rivas Plata & Lücking (Seavey et al. 2017)  
**phlyctidioides** (Müll. Arg.) Mangold (Seavey et al. 2017)  
**platycarpa** (Tuck.) A. Frisch Syns.: Thelotrema platycarpoides, T. platycarpum (Frisch 2006)  
**platycarpoides** (Tuck.) Breuss & Lücking (Lücking et al. 2011b)  
**subpatens** (Hale) Mangold (Lücking et al. 2011b)

#### CHEIROMYCINA B. Sutton

**flabelliformis** B. Sutton (Tønsberg 2002)

#### CHIODECTON Ach.

**malmei** Thor  
 ochroleucum Zahlbr. = Paraschismatomma ochroleucum (Ertz & Tehler 2011)  
 californicum Tuck. = Schizopelte crustosa (Ertz & Tehler 2011)  
 inscriptum (Nyl.) Fink = Sclerophyton inscriptum  
 montagnaei auct. N.A. = Cryptothecia striata  
 perplexum Nyl. = Syncesia graphica (Tehler 1996)  
 rubrocinctum (Ehrenb. : Fr.) Nyl. = Herpothallon rubrocinctum  
 sanguineum (Sw.) Vainio = Herpothallon rubrocinctum  
 sphaerale Ach. = misidentification for North America (Harris 1995a)  
 subochroleucum Fink = Dendrographa franciscana (Kocourková et al. 2010; Ertz & Tehler 2011)



#### CHIONOSPHERA Cox

\*apobasidialis Cox (According to Diederich [1996, and pers. comm.], only non-lichenicolous specimens are known for North America, and the lichenicolous specimens from Europe may represent a distinct species.)

#### CHRISMOFULVEA Marbach

**dialyta** (Nyl.) Marbach Syn.: Buellia dialyta (Marbach 2000)  
**pinastri** (Erichsen) Marbach Syn.: Buellia pinastri (Marbach 2000)  
**rubifaciens** (R. C. Harris) Marbach Syn.: Buellia rubifaciens (Marbach 2000)

#### CHROMATOCHLAMYS Trevisan (Nelsen et al. 2017)

**muscorum** (Fr.) H. Mayrhofer & Poelt var. muscorum Syn.: Thelenella muscorum  
**muscorum** var. **octospora** (Nyl.) H. Mayrhofer & Poelt Syn.: Thelenella muscorum var. octosporum

#### CHRYSOPSORA M. Choisy

testacea (Hoffm.) M. Choisy = Protoblastenia testacea, but not in North American flora.

#### CHRYSOTHRIX Mont.

**caesia** (Flotow) Ertz & Tehler (Ertz & Tehler 2011) Syns.: Allarthonia caesia, Arthonia caesia, A. lecideella  
**candelaris** (L.) J. R. Laundon Syns.: Lepraria candelaris, L. flava, L. citrina sens. lat.  
**chamaecyparicola** Lendemer (Lendemer & Elix 2010)  
**chlorina** (Ach.) J. R. Laundon Syn.: Lepraria chlorina  
**chrysophthalma** (P. James) P. James & J. R. Laundon (Tønsberg 2002)  
**granulosa** G. Thor (Tønsberg 2004a)  
**insulizans** R. C. Harris & Ladd (Harris & Ladd 2008)  
**onokoensis** (Wolle) R. C. Harris & Ladd (Harris & Ladd 2008)  
**susquehannensis** Lendemer & Elix (Lendemer & Elix 2010)  
**xanthina** (Vainio) Kalb (Harris & Ladd 2008)  
flavovirens Tønsberg (Harris & Lendemer 2005) North American report is C. chamaecyparicola

#### CIPOSIA Marbach

**wheeleri** (R. C. Harris) Marbach Syn.: Buellia wheeleri (Marbach 2000)

#### CIRCINARIA Link (Nordin et al. 2010)

**arida** Owe-Larsson, A. Nordin & Tibell (Owe-Larsson et al. 2011) Syns.: Aspicilia desertorum, Lecanora desertorum (American reports only)  
**caesiocinerea** (Nyl. ex Malbr.) A. Nordin, Savić & Tibell Syns.: Aspicilia caesiocinerea, Lecanora caesiocinerea  
**calcarea** (L.) A. Nordin, Savić & Tibell Syns.: Aspicilia calcarea, Lecanora calcarea  
**contorta** (Hoffm.) A. Nordin, Savić & Tibell Syns.: Aspicilia contorta, Lecanora contorta  
**elmori** (E. D. Rudolph) Owe-Larsson, A. Nordin & M. Sohrabi (Owe-Larsson et al. 2011) Syn.: Lecanora elmori  
**gibbosa** (Ach.) A. Nordin, Savić & Tibell Syns.: Aspicilia gibbosa, Lecanora gibbosa, L. gibbosula  
**hispida** (Mereschk.) A. Nordin, Savić & Tibell Syns.: Agrestia hispida, A. cyphellata, Aspicilia hispida  
**leproscens** (Sandst.) A. Nordin, Savić & Tibell Syn.: Aspicilia leproscens  
**rogeri** (Sohrabi) Sohrabi (Sohrabi et al. 2013b) Syn.: Aspicilia rogeri

#### CLADIDIUM Hafellner

**bolanderi** (Tuck.) B. D. Ryan Syns.: Lecanora thamnitidis, L. bolanderi  
thamnitidis (Tuck.) Hafellner = C. bolanderi

#### CLADINA Nyl. = CLADONIA (Ahti & DePriest 2001)

aberrans (Abbeyes) Hale & W. L. Culb. = Cladonia stellaris  
alpestris (L.) Nyl. = Cladonia stellaris

arbuscula (Wallr.) Hale & W. L. Culb. = *Cladonia arbuscula*  
 arbuscula subsp. beringiana (Ahti) N. S. Golubk. = *Cladonia arbuscula* subsp. beringiana  
 beringiana (Ahti) Trass = *Cladonia arbuscula* subsp. beringiana  
 ciliata (Stirton) Trass var. ciliata = *Cladonia ciliata* var. ciliata  
 ciliata var. tenuis (Flörke) Ahti & M. J. Lai = *Cladonia ciliata* var. tenuis  
 conspicua Ahti = *Cladonia conspicua*  
 evansii (Abbeyes) Hale & W. L. Culb. = *Cladonia evansii*  
 impexa B. de Lesd. = *Cladonia portentosa*  
 leucophaea (Abbeyes) Hale & W. L. Culb. = *Cladonia ciliata* var. ciliata  
 mitis (Sandst.) Mong. = *Cladonia arbuscula* subsp. mitis  
 pacifica (Ahti) Hale & W. L. Culb. = *Cladonia portentosa* subsp. pacifica  
 portentosa (Dufour) Follmann = *Cladonia portentosa*  
 portentosa subsp. pacifica (Ahti) Ahti = *Cladonia portentosa* subsp. pacifica  
 portentosa subsp. pacifica f. decolorans (Ahti) Ahti = *Cladonia portentosa* subsp. pacifica f. decolorans  
 pseudoëvansii (Asahina) Hale & W. L. Culb. = *Cladonia pseudoëvansii*  
 rangiferina (L.) Nyl. = *Cladonia rangiferina*  
 sandstedei (Abbeyes) Ahti = *Cladonia sandstedei*  
 stellaris (Opiz) Brodo = *Cladonia stellaris*  
 stellaris var. aberrans (Abbeyes) Ahti = *Cladonia stellaris*  
 stygia (Fr.) Ahti = *Cladonia stygia*  
 submitis (A. Evans) Hale & W. L. Culb. = *Cladonia submitis*  
 subtenuis (Abbeyes) Hale & W. L. Culb. = *Cladonia subtenuis*  
 subtenuis f. cinerea (Ahti) Ahti = *Cladonia subtenuis* f. cinerea  
 tenuis (Flörke) B. de Lesd. = *Cladonia ciliata* var. tenuis  
 terrae-novae (Ahti) Hale & W. L. Culb. = *Cladonia terrae-novae*

#### **CLADONIA** P. Browne

**abbreviatula** G. Merr.  
**acuminans** R. C. Harris (Harris 2009)  
**acuminata** (Ach.) Norrlin  
**alaskana** A. Evans  
**albonigra** Brodo & Ahti (Brodo & Ahti 1996)  
**alinii** Trass (Ahti 1980)  
**amaurocraea** (Flörke) Schaerer  
**andereggii** S. Hammer  
**anitae** W. L. Culb. & C. F. Culb.  
**apodocarpa** Robbins  
**appalachensis** Yoshim. & Sharp ex Lendemer & R. C. Harris (Lendemer & Harris 2013b)  
**arbuscula** (Wallr.) Flotow subsp. **arbuscula** Syn.: *Cladina arbuscula*  
**arbuscula** subsp. **beringiana** Ahti Syn.: *Cladina arbuscula* subsp. beringiana  
**arbuscula** subsp. **mitis** (Sandst.) Ruoss Syn.: *Cladina mitis* (Piercey-Normore 2010)  
**artuata** S. Hammer  
**asahinae** J. W. Thomson  
**atlantica** A. Evans  
**bacilliformis** (Nyl.) Sarnth.  
**beaumontii** (Tuck.) Vainio  
**bellidiflora** (Ach.) Schaerer  
**borealis** S. Stenroos  
**boryi** Tuck.  
**botryocarpa** G. Merr.  
**botrytes** (K. G. Hagen) Willd.  
**brevis** (Sandst.) Sandst.  
**buckii** R. C. Harris  
**caespiticia** (Pers.) Flörke  
**cariosa** (Ach.) Sprengel  
**carneola** (Fr.) Fr.



**caroliniana** Tuck. Syn.: *Pycnothelia cladinoidea*  
**cenotea** (Ach.) Schaerer  
**cervicornis** (Ach.) Flotow subsp. **cervicornis**  
**chlorophaea** (Flörke ex Sommerf.) Sprengel  
**ciliata** Stirton Syn.: *Cladina ciliata*  
**ciliata** var. **tenuis** (Flörke) Ahti Syn.: *Cladina ciliata* var. *tenuis*  
**cinerella** Ahti (Ahti 2000, Seavey 2010[2011])  
**coccifera** (L.) Willd.  
**concinna** Ahti & Goward (Ahti 2007)  
**coniocraea** (Flörke) Sprengel  
**conista** (Nyl.) Robbins (Pino-Bodas et al. 2012)  
**conspicua** (Ahti) Ahti Syn.: *Cladina conspicua*  
**cornuta** (L.) Hoffm. subsp. **cornuta**  
**cornuta** subsp. **groenlandica** (E. Dahl) Ahti  
**crispata** (Ach.) Flotow var. **crispata**  
**crispata** var. **cetrariiformis** (Delise) Vainio  
**cristatella** Tuck.  
**cryptochlorophaea** Asahina  
**cyanipes** (Sommerf.) Nyl.  
**cylindrica** (A. Evans) A. Evans  
**dactylota** Tuck.  
**dahlia** Kristinsson  
**decorticata** (Flörke) Sprengel  
**deformis** (L.) Hoffm.  
**didyma** (Fée) Vainio  
**didyma** var. **vulcanica** (Zoll. & Moritzi) Vainio  
**digitata** (L.) Hoffm.  
**dimorpha** S. Hammer  
**dimorphoclada** Robbins  
**ecmocyna** Leighton subsp. **ecmocyna**  
**ecmocyna** subsp. **intermedia** (Robbins) Ahti  
**ecmocyna** subsp. **occidentalis** Ahti (Brodo & Ahti 1996)  
**evansii** Abbayes Syn.: *Cladina evansii*  
**extracorticata** S. Hammer  
**farinacea** (Vainio) A. Evans  
**fimbriata** (L.) Fr.  
**firma** (Nyl.) Nyl.  
**flörkeana** (Fr.) Flörke  
**floridana** Vainio  
**furcata** (Hudson) Schrader  
**glauca** Flörke  
**gracilis** (L.) Willd. subsp. **gracilis**  
**gracilis** subsp. **elongata** (Jacq.) Vainio  
**gracilis** subsp. **turbinata** (Ach.) Ahti  
**gracilis** subsp. **vulnerata** Ahti  
**granulans** Vainio  
**grayi** G. Merr. ex Sandst.  
**homosekikaica** Nuno  
**humilis** (With.) J. R. Laundon  
**hypoxantha** Tuck.  
**imbricarica** Kristinsson  
**incrassata** Flörke  
**jakutica** Ahti (McCune et al. 2009)  
**jaliscana** Ahti & Guzm.-Dáv. (Ahti & Hammer 2002)  
**kanewskii** Oxner  
**labradorica** Ahti & Brodo

**lacryma** S. Hammer (Hammer 2001)  
**leporina** Fr.  
**libifera** Savicz (McCune et al. 2009; Hansen & Ahti 2011)  
**luteoalba** Wheldon & A. Wilson  
**macilenta** Hoffm.  
**macilenta** var. **bacillaris** (Ach.) Schaerer  
**macroceras** (Delise) Ahti  
**macrophylla** (Schaerer) Stenh.  
**macrophyllodes** Nyl.  
**magyarica** Vainio  
**maritima** K. Knudsen & Lendemer (Knudsen & Lendemer 2009a)  
**mateocyatha** Robbins  
**maxima** (Asahina) Ahti  
**merochlorophaea** Asahina  
**monomorpha** Aptroot, Sipman & van Herk (Kowalewska et al. 2008)  
**multiformis** G. Merr.  
**nana** Vainio  
**nashii** Ahti (Ahti & Hammer 2002)  
**nipponica** Asahina  
**nitens** Ahti (Ahti 2007)  
**norvegica** Tønsberg & Holien  
**novochlorophaea** (Sipman) Brodo & Ahti (Brodo & Ahti 1996)  
**ochrochlora** Flörke  
**oricola** Ahti & S. Stenroos (Ahti & Stenroos 2008)  
**pachycladodes** Vainio  
**parasitica** (Hoffm.) Hoffm.  
**perforata** A. Evans  
**perlomera** Kristinsson  
**petrophila** R. C. Harris  
**peziziformis** (With.) J. R. Laundon  
**phyllophora** Hoffm.  
**piedmontensis** G. Merr.  
**pleurota** (Flörke) Schaerer  
**pocillum** (Ach.) O. J. Rich.  
**poroscypha** S. Hammer  
**portentosa** (Dufour) Coem. Syn.: *Cladina portentosa*  
**portentosa** subsp. **pacifica** (Ahti) Ahti Syn.: *Cladina portentosa* subsp. *pacifica*  
**portentosa** subsp. **pacifica** f. **decolorans** Ahti Syn.: *Cladina portentosa* subsp. *pacifica* f. *decolorans*  
**prolifera** Ahti & S. Hammer  
**prostrata** A. Evans  
**pseudalcicornis** Asahina (Ahti 2007)  
**pseudoëvansii** Asahina Syn.: *Cladina pseudoëvansii*  
**pulvinella** S. Hammer  
**pyxidata** (L.) Hoffm.  
**ramulosa** (With.) J. R. Laundon  
**rangiferina** (L.) F. H. Wigg. Syn.: *Cladina rangiferina*  
**rappii** A. Evans  
**ravenelii** Tuck.  
**rei** Schaerer (Syrek & Kukwa 2008, Dolnik et al. 2010, Pino-Bodas et al. 2010)  
**robbinsii** A. Evans  
**sandstedei** Abbayes Syn.: *Cladina sandstedei*  
**santensis** Tuck.  
**scabriuscula** (Delise) Nyl.  
**scotteri** Ahti & E. S. Hansen (Hansen & Ahti 2011)  
**simulata** Robbins  
**singularis** S. Hammer



**squamosa** (Scop.) Hoffm.  
**squamosa** var. **subsquamosa** (Nyl. ex Leighton) Vainio  
**stellaris** (Opiz) Pouzar & Vězda Syn.: *Cladonia stellaris*  
**stipitata** Lendemer & Hodkinson (Lendemer & Hodkinson 2009)  
**straminea** (Sommerf.) Flörke (Timdal & Tønsberg 2012)  
**strepsilis** (Ach.) Grognot  
**stricta** (Nyl.) Nyl.  
**stygia** (Fr.) Ruoss Syn.: *Cladonia stygia*  
**subcariosa** Nyl. (Ahti 2000)  
**subfimbriata** Ahti (Ahti & Hammer 2002)  
**subfurcata** (Nyl.) Arnold  
**submitis** A. Evans Syn.: *Cladonia submitis*  
**subradiata** (Vainio) Sandst.  
**subsetacea** Robbins ex A. Evans  
**subsquamosa** Kremp.  
**subtenuis** (Abbayes) Mattick Syn.: *Cladonia subtenuis*  
**subtenuis** f. **cinerea** Ahti Syn.: *Cladonia subtenuis* f. *cinerea*  
**subulata** (L.) F. H. Wigg.  
**sulphurina** (Michaux) Fr.  
**symphy carpia** (Flörke) Fr. (Ahti 2000, Hansen & Ahti 2011)  
**terrae-novae** Ahti Syn.: *Cladonia terrae-novae*  
**thiersii** S. Hammer  
**thomsonii** Ahti  
**transcendens** (Vainio) Vainio  
**trassii** Ahti (Ahti 1998)  
**turgida** Ehrh. ex Hoffm.  
**uliginosa** (Ahti) Ahti (Ahti 1998)  
**umbricola** Tønsberg & Ahti  
**uncialis** (L.) F. H. Wigg. subsp. **uncialis** (Stenroos et al. 2015)  
**uncialis** subsp. **biuncialis** (Hoffm.) M. Choisy (Stenroos et al. 2015)  
**verruculosa** (Vainio) Ahti  
**verticillata** (Hoffm.) Schaerer (Ahti, in litt.)  
**wainioi** Savicz  
aberrans (Abbayes) Stuckenb. = *Cladonia stellaris*  
acuminata var. *norrlinii* (Vainio) Lynge = *C. acuminata*  
alpestris (L.) Rabenh. = *C. stellaris*  
alpestris f. *aberrans* Abbayes = *C. stellaris*  
alpicola (Flotow) Vainio = *C. macrophylla*  
anomaea (Ach.) Ahti & P. James = *C. ramulosa*  
bacillaris (Ach.) Genth = *C. macilenta* var. *bacillaris*  
balfourii auct. = *C. subradiata*  
balfourii Crombie = *C. macilenta*  
blakei Robbins = *C. coccifera*  
borbonica (Delise) Nyl. North American reports are *C. cylindrica* (Evans 1950)  
botryoides (Tuck.) Vainio = *C. squamosa* (Ahti et al. 2016)  
calycantha Delise ex Nyl. = *C. rappii* for North American records.  
capitata (Michaux) Sprengel = *C. peziziformis*  
carassensis Vainio = misidentification for North America  
cerasphora Vainio (Fink 1935) = *C. stricta* (Ahti 1998)  
cerasphora auct. = *C. trassii* (Ahti, in litt.)  
cervicornis subsp. *verticillata* (Hoffm.) Ahti = *Cladonia verticillata* (Ahti, in litt.)  
cetrarioides Schwein. ex Tuck. (Fink 1935) = *C. leporina* (Lendemer & Hewitt 2002)  
cladinoides (Nyl.) Zahlbr. = *Cladonia caroliniana*  
clavulifera Vainio = *C. subcariosa* (Ahti 2000)  
conistea auct. = *C. humilis*  
conoidea Ahti = *C. humilis*

cornucopioides auct. (Mohr 1901) = *C. coccifera*  
 cornutoradiata (Leighton) Sandst. = *C. subulata*  
 corymbosula Nyl. (Fink 1935) Apparent misidentification for North America (Esslinger & Tucker 2009)  
 crinita Bertol. = *C. evansii* (Ahti et al. 2016)  
 cyathomorpha «(Evans) Evans» (Qian & Klinka 1998) = misidentification for North America  
 degenerans (Flörke) Sprengel = *C. phyllophora*  
 delessertii Vainio = *C. subfurcata*  
 delicata auct. = *C. parasitica*  
 diversa Asperges (Lendemer 2006) = misidentification for North America (Ahti, in litt.)  
 elongata auct. non (Jacq.) Hoffm. = misidentification for North America, possibly *C. macroceras* or *C. maxima*,  
 elongata (Jacq.) Hoffm. = *C. gracilis* var. *elongata*  
 endoxantha Vainio (Fink 1935) = *C. hypoxantha* (Thomson 1967)  
 exasperatula G. Merr. (Fink 1935) = *C. beaumontii* (Tuck.) Vainio (Thomson 1967)  
 flabelliformis Vainio = *C. polydactyla*  
 flavescens Vainio = misidentification for North America  
 foliacea (Hudson) Willd. = misidentification for North America  
 furcata subsp. subrangiformis auct. N. Am. = *C. furcata* (Ahti, in litt.)  
 gonecha (Ach.) Asahina = *C. sulphurina*  
 gracilescens auct. = *C. stricta*  
 graciliformis Zahlbr. North American reports are errors, mostly representing *C. bellidiflora* (Dillman et al. 2012)  
 gracilis subsp. nigripes (Nyl.) Ahti = *C. gracilis* subsp. *elongata*  
 hammeri Ahti (Ahti & Hammer 2002) = *C. pulvinella* (Pino-Bodas et al. 2013)  
 herrei Fink ex J. Hedrick = *C. furcata*  
 heteromorpha G. Merr. (Fink 1935) = *Pycnothelia papillaria* (Laundon 1986)  
 hookeri Tuck. = *C. bellidiflora*  
 hookeri sensu J. W. Thomson = *C. graciliformis*  
 humilis var. bourgeanica A.W. Archer = *C. conista*  
 innominata Lendemer (Lendemer 2008) = *C. conista* (Pino-Bodas et al. 2012)  
 invisа Robbins = *C. ochrochlora*  
 japonica Vainio = *C. crispata*  
 lepidota auct. = *C. trassii* (Ahti, in litt.)  
 leptothallina G. Merr. = *C. peziziformis*  
 linearis A. Evans = *Cetradonia linearis*  
 macroptera Räsänen = *C. scabriuscula* (fide T. Ahti)  
 major (K. G. Hagen) Sandst. = *C. fimbriata*  
 merochlorophaea var. novochlorophaea Sipman = *C. novochlorophaea*  
 metacorallifera Asahina = *C. straminea* (Timdal & Tønsberg 2012)  
 microphylliza G. Merr. (Fink 1935) = *C. beaumontii* (Thomson 1967)  
 mitis Sandst. = *Cladonia arbuscula* subsp. *mitis*  
 mitrula Tuck. = *C. peziziformis*  
 nanodes Robbins ex Sandst. = nom. invalid., identity uncertain  
 nemoxyna (Ach.) Arnold = *C. rei*  
 norrlinii Vainio = *C. acuminata* var. *acuminata*  
 palamaea (Ach.) Fink (Fink 1935) = *C. furcata* (Thomson 1967)  
 paludicola (Tuck.) G. Merr. (Fink 1935) = *incrassata* (Thomson 1967)  
 papillaria (Ehrh.) Hoffm. = *Pycnothelia papillaria*  
 pityrea (Flörke) Fr. = *C. ramulosa*  
 polycarpia G. Merr. = *C. subcariosa* (Ahti 2000)  
 polycarpoides Nyl. = *C. subcariosa* (Ahti 2000)  
 polydactyla (Flörke) Sprengel = misidentification for North America, mostly refers to *C. umbricola* (fide T. Ahti)  
 pseudodigitata Gyelnik = *C. coccifera*  
 pseudohondoensis Asahina = misidentification for North America



pseudomacilenta Asahina = misidentification for North America  
 pseudorangiformis Asahina = *C. wainioi*  
 pseudostellata Asahina (Spribille et al. 2010) = *C. uncialis* subsp. *uncialis* (Stenroos et al. 2015)  
 psoromica J. P. Dey = *C. dimorphoclada* Robbins (Ahti 2000)  
 pulchella Schwein. (Mohr 1901) = *C. didyma*  
 pycnoclada (Gaudich.) Nyl. = misidentification for North America (Ahti 1961)  
 rangiformis Hoffm. = not in North America  
 rappii var. *exilior* (Abbeyes) Ahti = *C. rappii* var. *rappii*  
 reticulata (Russell) Vainio (Fink 1935) = *C. boryi* (Thomson 1967)  
 schofieldii Ahti & Brodo (Brodo & Ahti 1996) = *C. pseudalcicornis*  
 sobolescens Nyl. ex Vainio = *C. subcariosa* (Ahti 2000)  
 stellaris var. *aberrans* (Abbeyes) ined. = *C. stellaris* (Ahti, in litt.)  
 stenophyllodes Vainio (Fink 1935) = misidentification for North America  
 stricta var. *uliginosa* Ahti = *C. uliginosa*  
 subapodocarpa Harris, nomen nudum (Hale 1979) = *Cladonia petrophila*  
 subcervicornis (Vainio) Kernst. = misidentification for North America  
 subclavulifera Asahina = *C. subcariosa* (Ahti 2000)  
 subrangiformis auct. N. Am. = *C. furcata*  
 subsquamosa (Nyl. ex Leighton) Crombie nom. illeg. = *C. squamosa* var. *subsquamosa*  
 subsubulata Nyl. = misidentification for North America  
 sylvatica nom. utique rej. s. auct. = *C. arbuscula* subsp. *arbuscula* (Ahti, in litt.)  
 theiophila Asahina = *C. vulcani*, but not present in North America  
 vulcani Savicz = misidentification for North America  
 vulcanica Zoll. & Moritzi = *C. didyma* var. *vulcanica*  
 yunnana (Vainio) Abbeyes ex J. C. Wei & Y. M. Jiang = misidentification for North America

#### **CLADOPHIALOPHORA** Borelli (Diederich et al. 2013)

\***megalosporae** Diederich (Diederich et al. 2013)

\***parmeliae** Etayo & Diederich (Kocourková & Knudsen 2009d) Syn.: *Sclerococcum parmeliae*

#### **CLATHROPORINA** Müll. Arg.

**isidiifera** R. C. Harris (Harris 1995a)

**subpungens** (Malme) R. C. Harris (Harris 1995a)

**tetracerae** (Ach.) R. C. Harris (Harris 1995a)

<sup>+</sup>*amygdalina* sensu Fink = *Julella sublactea* (Harris 1995a).

*confinis* Müll. Arg. = *Porina nuculastrum* (Harris 1995a)

*diphloea* Zahlbr. = *Astrothelium megaspermum*

<sup>+</sup>*exiguella* Zahlbr. = *Julella sublactea* (Harris 1995a)

*nuculastrum* Müll. Arg. = *Porina nuculastrum* (Harris 1995a)

#### **CLAUROUXIA** D. Hawksw.

**chalybeioides** (Nyl.) D. Hawksw. (Fyday 2010)

#### **CLAUZADEA** Hafellner & Bellem.

**chondrodes** (A. Massal.) Clauzade & Cl. Roux (Lendemer et al. 2013)

**immersa** (Hoffm.) Hafellner & Bellem. Syn.: *Lecidea calcivora*

**metzleri** (Körber) Clauzade & Cl. Roux ex D. Hawksw. (Hansen 2003)

**monticola** (Ach.) Hafellner & Bellem. Syns.: *Lecidea monticola*, *L. fuscorubens*, *Protoblastenia monticola*

#### **CLAUZADEANA** Cl. Roux

**macula** (Taylor) Coppins & Rambold (Hertel 1991) Syn.: *Lecanora morioides*

#### **CLAVASCIDIUM** Breuss (Breuss 1996)

**lacinulatum** (Ach.) M. Prieto var. **lacinulatum** (Prieto et al. 2012) Syns.: *Catapyrenium lacinulatum*, *Placidium lacinulatum*

**lacinulatum** var. **atrans** (Breuss) M. Prieto (Prieto et al. 2012)  
**lacinulatum** var. **erythrostrum** (Breuss) M. Prieto (Prieto et al. 2012)  
**umbrinum** (Breuss) Breuss Syn.: *Placidium umbrinum* (Prieto et al. 2012)

#### **CLIOSTOMUM** Fr.

**corrugatum** (Ach.: Fr.) Fr. Syn.: *Catillaria graniformis*  
**flavidulum** Hafellner & Kalb (Tønsberg 1997)  
**griffithii** (Sm.) Coppins Syns.: *Catillaria griffithii*, *C. tricolor* auct.  
**leprosum** (Räsänen) Holien & Tønsberg  
**spribillei** Goward & Tønsberg (Tønsberg & Goward 2016)  
**tenerum** (Nyl.) Coppins & S. Ekman (Ekman 1997) Syns.: *Lecania tenera*, *Lecanora tenera*  
**vitellinum** Gowan  
graniforme (K. G. Hagen) Coppins = *C. corrugatum*  
luteolum Gowan = *C. leprosum*  
pallens (Kullhem) S. Ekman = *Biatora pallens*

#### **CLYPEOCOCCUM** D. Hawksw.

\***bisporum** Zhurb. (Zhurbenko 2009b)  
\***grossum** (Körber) D. Hawksw.  
\***hypocenomycis** D. Hawksw.  
\***epicrassum** (H. Olivier) Hafellner & Nav.-Ros. According to Hawksworth (1986), our records probably based on *Polycoccum squamarioides*

#### **COCCOCARPIA** Pers.

**domingensis** Vainio  
**erythroxyli** (Sprengel) Swinscow & Krog  
**filiformis** Arv. (Kaminsky et al. 2013)  
**palmicola** (Sprengel) Arv. & D. J. Galloway  
**pellita** (Ach.) Müll. Arg. (Kaminsky et al. 2013) Syn.: *Pannaria molybdaea*  
**prostrata** Lücking, Aptroot & Sipman (Lücking et al. 2007)  
**stellata** Tuck. Syns.: *Pannaria stellata*, *Parmeliella stellata*  
asterella (Nyl.) Vainio = *C. stellata*  
cronia (Tuck.) Vainio = *C. palmicola*  
incisa Pers. = *C. erythroxyli*  
molybdaea Pers. = *C. pellita*  
parmelioides (Hooker) Tuck. ex M. A. Curtis = *C. erythroxyli*

#### **COCCOTREMA** Müll. Arg.

**hahriae** T. Sprib. & Tønsberg (Spribille et al. 2010)  
**maritimum** Brodo  
**minutum** (Degel.) R. Sant. (Spribille et al. 2010)  
**pocillarium** (Cummings) Brodo Syns.: *Ochrolechia pacifica*, *Perforaria minuta*

#### **COELOCAULON** Link

**aculeatum** (Schreber) Link = *Cetraria aculeata*  
**divergens** (Ach.) R. Howe = *Bryocaulon divergens*  
**muricatum** (Ach.) J. R. Laundon = *Cetraria muricata*  
**odontellum** (Ach.) R. Howe = *Cetraria odontella*

#### **COENOGONIUM** Ehrenb.

**congensis** C. W. Dodge (Lücking et al. 2011b)  
**disjunctum** Nyl.  
**geralense** (P. Henn) Lücking (Lücking et al. 2011b)  
**implexum** Nyl.  
**interplexum** Nyl.  
**interpositum** Nyl.



**isidiatum** (G. Thor & Vězda) Lücking, Aptroot & Sipman (Seavey & Seavey 2014a)  
**isidiiferum** (Lücking) Lücking (Seavey & Seavey 2014a)  
**isidiigerum** (Vězda & Osorio) Lücking, Aptroot & Sipman (Seavey & Seavey 2012)  
**isidiosum** (Breuss) Rivas Plata, Lücking, Umaña & Chavez (Seavey & Seavey 2012)  
**linkii** Ehrenb.  
**luteocitrinum** Rivas Plata, Lücking & Umaña (Lücking et al. 2011b)  
**lutescens** (Vězda & Malcolm) Malcolm (Seavey et al. 2014)  
**luteum** (Dicks.) Kalb & Lücking Syn.: *Dimerella lutea* (Lücking & Kalb 2000), *Gyalecta lutea*, *Microphiale lutea*  
**maritimum** F. Seavey & J. Seavey (Seavey et al. 2017)  
**missouriense** J. Davis  
**moniliforme** Tuck.  
**nepalense** (G. Thor & Vězda) Lücking (Seavey & Seavey 2014a)  
**pineti** (Ach.) Lücking & Lumbsch (Lücking, Stuart & Lumbsch 2004) Syns. *Dimerella pineti*, *D. diluta*, *Microphiale diluta*  
**pusillum** (Mont.) Lücking, Aptroot & Sipman (Seavey et al. 2014)  
**pyrophthalmum** (Mont.) Lücking (Seavey et al. 2017)  
**roumeguerianum** (Müll. Arg.) Kalb (Seavey et al. 2014)  
**stenosporum** (Malme) Lücking, Aptroot & Sipman (Seavey et al. 2014)  
**subdentatum** (Vězda & G. Thor) Rivas Plata, Lücking, Umaña & Chavez (Lücking et al. 2011b)  
**subdilutum** (Malme) Lücking, Aptroot & Sipman (Seavey & Seavey 2014a)  
**subfallaciosum** (Vězda & Farkas) Lücking, Aptroot & Sipman (Lücking et al. 2011b)

#### COLLEMA F. H. Wigg.

**coniophilum** Goward (Spribille et al. 2009)  
**curtisporum** Degel.  
**flaccidum** (Ach.) Ach. Syn.: *Synechoblastus rupestris*  
**furfuraceum** (Arnold) Du Rietz  
**furfuraceum** var. **luzonense** (Räsänen) Degel.  
**glebulentum** (Nyl. ex Crombie) Degel.  
**leptaleum** Tuck. Syns.: *Synechoblastus leptaleus*, *S. microptychius*  
**nigrescens** (Hudson) DC. Syn.: *Synechoblastus nigrescens*  
**pulchellum** Ach. Syn.: *Leptogium pulchellum*  
**pulchellum** var. **leucopeplum** (Tuck.) Degel.  
**pulchellum** var. **subnigrescens** (Müll. Arg.) Degel.  
**pustulatum** Ach.  
**ryssoleum** (Tuck.) A. Schneider Syn.: *Synechoblastus ryssoleus*  
**subflaccidum** Degel.  
**subnigrescens** Degel.  
**subparvum** Degel.  
**texanum** Tuck. Syns.: *Synechoblastus texanus*, *S. laciniatus*  
**thamnodes** Riddle  
 apalachense Tuck. = *Scytinium apalachense* (Otálora et al. 2014)  
 arcticum Lynge = *Rostania ceranisca*  
 aggregatum (Ach.) Röhl = *Gabura fasciculare*  
 auriculatum Hoffm. = *Lathagrium auriforme*  
 auriforme (With.) Coppins & J. R. Laundon = *Lathagrium auriforme* (Otálora et al. 2014)  
 bachmanianum (Fink) Degel. = *Enchylium bachmanianum* (Otálora et al. 2014)  
 bermudanum Tuck. ex Riddle = *C. pustulatum* (Degelius 1974)  
 bermudiana Tuck. ex Riddle (Fink 1935) Orthographic variant of *C. bermudanum*  
 callibotrys Tuck. = *Rostania callibotrys* (Otálora et al. 2014)  
 callopismum A. Massal. = *Scytinium callopismum* (Otálora et al. 2014)  
 callopismum var. *rhyparodes* (Nyl.) Degel. = *Scytinium callopismum*  
 ceraniscum Nyl. = *Rostania ceranisca* (Otálora et al. 2014)  
 cheileum (Ach.) Ach. = *Blennothallia crispa*  
 coccophorum Tuck. = *Enchylium coccophorum* (Otálora et al. 2014)

conglomeratum Hoffm. = *Enchylium conglomeratum* (Otálora et al. 2014)  
 conglomeratum var. *corynesporum* (Malme) Degel. = *Enchylium conglomeratum*  
 conglomeratum var. *crassiusculum* (Malme) Degel. = *Enchylium conglomeratum*  
 crispum (Hudson) Weber ex F. H. Wigg. = *Blennothallia crispa* (Otálora et al. 2014)  
 cristatellum Tuck. = *Enchylium tenax*  
 cristatum (L.) Weber ex F. H. Wigg. = *Lathagrium cristatum* (Otálora et al. 2014)  
 cristatum var. *marginale* (Hudson) Degel. = *Lathagrium cristatum*  
 cyrtaspis Tuck. = *Enchylium conglomeratum*  
 dichotomum (With.) Coppins & J. R. Laundon = *Lathagrium dichotomum* (Otálora et al. 2014)  
 dubium B. de Lesd. = *Enchylium coccophorum* (Otálora et al. 2014)  
 fasciculare (L.) F. H. Wigg. = *Gabura fasciculare* (Jørgensen 2014)  
 fayettense Fink = *C. pustulatum*  
 fecundum Degel. = *Blennothallia fecunda* (Otálora et al. 2014)  
 fluvatile (Hudson) Steudel = *Lathagrium. dichotomum*  
 fragrans (Sm.) Ach. = *Scytinium fragrans* (Otálora et al. 2014)  
 furvum (Ach.) Ach. = *Lathagrium fuscovirens* (Otálora et al. 2014)  
 fuscovirens (With.) J. R. Laundon = *Lathagrium fuscovirens* (Otálora et al. 2014)  
 glaucescens Hoffm. = *Enchylium limosum*  
 granosum auct. = *C. auriforme*  
 kauaiense H. Magn. = *Scytinium kauaiense* (Otálora et al. 2014)  
 laciniatum Nyl. = *C. texanum*  
 leucocarpum Hooker & Taylor = misidentification for North America  
 leucopeplum (Tuck.) A. Schneider = *C. pulchellum* var. *leucopeplum*  
 limosum (Ach.) Ach. = *Enchylium limosum* (Otálora et al. 2014)  
 microphyllum Ach. = *Scytinium fragrans*  
 microptychium Tuck. = *C. leptaleum*  
 multipartitum Sm. = *Callome multipartita* (Otálora et al. 2014)  
 myriococcum (Ach.) Ach. = *Lempholemma polyanthes*  
 novomexicanum B. de Lesd. = *Enchylium coccophorum*  
 nylanderianum Zahlbr. = *C. texanum*  
 occultatum Bagl. = *Rostania occultata* (Otálora et al. 2014)  
 ohioense (Fink) Zahlbr. = *Enchylium conglomeratum*  
 plicatile (Ach.) Ach. = *Scytinium plicatile* (Otálora et al. 2014)  
 polycarpon Hoffm. = *Enchylium polycarpon* (Otálora et al. 2014)  
 pulposum (Bernh.) Ach. = *Enchylium tenax*  
 pycnocarpum Nyl. = *Enchylium conglomeratum*  
 quadrifidum D. F. Stone & McCune (Stone & McCune 2010) = *Rostania quadrifida* (McCune et al. 2014b)  
 rugosum Kremp. Not known from North America.  
 stenophyllum Nyl. = *Lathagrium dichotomum*  
 subfurfuraceum Degel. = *C. furfuraceum* var. *luzonense*  
 subfurvum sensu Degelius = *C. subflaccidum* Degel.  
 subfurvum (Müll. Arg.) Degel. = *C. rugosum*, but this taxon is not known from North America.  
 tenax (Sw.) Ach. = *Enchylium tenax* (Otálora et al. 2014)  
 tenax var. *ceranoides* (Borrer) Degel. = *Enchylium tenax*  
 tenax var. *corallinum* (A. Massal.) Degel. = *Enchylium tenax*  
 tenax var. *crustaceum* (Kremp.) Degel. = *Enchylium tenax*  
 tenax var. *expansum* Degel. = *Enchylium expansum* (Jørgensen & Goward 2014b)  
 tenax var. *substellatum* (H. Magn.) Degel. = *Enchylium tenax*  
 tuniforme (Ach.) Ach. = *Lathagrium fuscovirens*  
 undulatum Laurer ex Flotow = *Lathagrium undulatum* (Otálora et al. 2014)  
 undulatum var. *granulosum* Degel. = *Lathagrium undulatum*  
 verruciforme auct. = excluded as doubtful

COLLEMODES Fink = COLLEMA

bachmanianum Fink = *Enchylium bachmanianum*



**COLLEMOPSISIDIUM** Nyl.

- angermannicum** (Degel.) A. Nordin Syn.: *Pyrenocollema strontianense* (Nordin 2002)  
**bryospilum** (Nyl.) Coppins Syn.: *Arthopyrenia bryospilum* (Fryday 2004a)  
**elegans** (R. Sant.) Grube & B. D. Ryan (Grube & Ryan 2002) Syn.: *Pyrenocollema elegans*  
**foveolatum** (A. L. Sm.) F. Mohr (Dillman et al. 2012)  
**halodytes** (Nyl.) Grube & B. D. Ryan (Grube & Ryan 2002) Syns.: *Arthopyrenia halodytes*,  
*Pyrenocollema halodytes*  
**sublitorale** (Leighton) Grube & B. D. Ryan (Grube & Ryan 2002) Syns.: *Arthopyrenia sublitoralis*, *A.*  
*litoralis* auct., *Pyrenocollema sublitorale*

**COLLEMOPSIS** Nyl. ex Crombie

- segregata* Nyl. ex Hasse = *Lempholemma chalazanum*

**COMBEA** De Not.

- californica* (Th. Fr.) Follmann & M. Geyer = *Schizopelte californica*

**CONIAMBIGUA** Etayo & Diederich

- \***phaeographidis** Etayo & Diederich (Diederich 2003)

**CONIARTHONIA** Grube

- gregarina** (Willey) Grube (Grube 2001) Syns: *Arthonia gregarina*, *Arthothelium gregarinum*  
**pyrrhula** (Nyl.) Grube (Grube 2001) Syn.: *Arthonia pyrrhula*

**CONIOCYBE** Ach.

- furfuracea* (L.) Ach. = *Chaenotheca furfuracea*  
*gracilescens* Willey = *Chaenotheca chrysocephala* (Selva 2004)  
*gracillima* Vainio = *Chaenotheca gracillima*  
*nivea* (Hoffm.) Arnold non Tuck. & Mont. = *Sclerophora nivea*  
*pallida* (Pers.) Fr. = *Sclerophora nivea*  
*sulphurea* (Retz.) Nyl. = *Chaenotheca brachypoda*

**CONIOCYBOPSIS** Vainio

- arenaria* (Hampe ex A. Massal.) Vainio = *Microcalicium arenarium*

**CONOTREMA** Tuck.

- albonigrum* Zahlbr. = *Trinathotrema stictideum*  
*urceolatum* (Ach.) Tuck. = *Stictis urceolatum*

**CONSTRICOTOLUMINA** Lücking, M. P. Nelsen & Aptroot

- cinchonae** (Ach.) Lücking, M. P. Nelsen & Aptroot Syns: *Arthopyrenia cinchonae*, *Pyrenula cinchonae* (Aptroot & Lücking 2016)  
**leucostoma** (Müll. Arg.) Lücking, M. P. Nelsen & Aptroot Syn.: *Arthopyrenia confluens* (Aptroot & Lücking 2016)  
**lyrata** (R. C. Harris) Lücking, M. P. Nelsen & Aptroot Syn.: *Arthopyrenia lyrata* (Aptroot & Lücking 2016)  
**majuscula** (Nyl.) Lücking, M. P. Nelsen & Aptroot Syn.: *Arthopyrenia majuscula* (Aptroot & Lücking 2016)  
**malaccitula** (Nyl.) Lücking, M. P. Nelsen & Aptroot Syn.: *Arthopyrenia malaccitula* (Aptroot & Lücking 2016)  
**planorbis** (Ach.) Lücking, M. P. Nelsen & Aptroot Syn.: *Arthopyrenia planorbis* (Aptroot & Lücking 2016)

**CORA** Fr. (Lawrey et al. 2009)

- glabrata** (Sprengel) Fr. Syn.: *Dictyonema glabratum*  
*pavonia* (Sw.) Fr. = *Cora glabrata*, for North American reports

CORISCIMUM Vainio = LICHENOMPHALIA  
viride (Ach.) Vainio = Lichenomphalia hudsoniana

**CORNICULARIA** (Schreber) Hoffm.  
**normoerica** (Gunn.) Du Rietz  
aculeata (Schreber) Ach. = Cetraria aculeata  
californica (Tuck.) Du Rietz = Kaernefeltia californica  
divergens Ach. = Bryocaulon divergens  
fibrillosa (Ach.) Halsey = Bryoria furcellata  
muricata (Ach.) Ach. = Cetraria muricata  
odontella (Ach.) Westend. = Cetraria odontella  
pseudosatoana Asahina = Bryocaulon pseudosatoanum

**CORNUTISPORA** Piroz.  
\***ciliata** Kalb (Cole & Hawksw. 2001)  
\***intermedia** Punith & D. Hawksw. (Esslinger & Egan 1995)  
\***lichenicola** D. Hawksw. & B. Sutton (Kalb et al. 1995)  
\***pyramidalis** Etayo (McMullin et al. 2017)

**CORTICIFRAGA** D. Hawksw. & R. Sant.  
\***chugachiana** Zhurb. (Zhurbenko 2007a)  
\***fuckelii** (Rehm) D. Hawksw. & R. Sant. Syn.: Phragmonaevia fuckelii  
\***peltigerae** (Nyl.) D. Hawksw. & R. Sant. (Alstrup & Cole 1998)  
\***santessonii** Zhurb. & Zavarzin (Zhurbenko 2007a)  
\***scrobiculatae** Pérez-Ortega (Spribille et al. 2010)

**CORYNESPORA** Güssow  
**laevistipitata** (M. S. Cole & D. Hawksw.) Heuchert & U. Braun Syn.: Taeniolella laevistipitata  
(Heuchert & Braun 2006)

**CRATIRIA** Marbach (Marbach 2000)  
**americana** (Fée) Kalb & Marbach Syn.: Buellia modesta  
**lauricassiae** (Fée) Marbach Syn.: Buellia lauricassiae  
**melanochlora** (Kremp.) Marbach Syn.: Buellia melanochlora

**CRESPOA** (D. Hawksw.) Lendemer & Hodgkinson (Lendemer & Hodgkinson 2012)  
**crozalsiana** (B. de Lesd. ex Harm.) Lendemer & Hodgkinson (Lendemer & Hodgkinson 2012) Syns.:  
Canoparmelia crozalsiana, Parmelia crozalsiana, Pseudoparmelia crozalsiana

**CRESPONEA** Egea & Torrente  
**chloroconia** (Tuck.) Egea & Torrente Syn.: Lecanactis chloroconia  
**flava** (Vainio) Egea & Torrente (Harris 1995a)  
**lepricuri** (Mont.) Egea & Torrente  
**premnea** (Ach.) Egea & Torrente Syn.: Lecanactis premnea  
**premnea** var. **saxicola** (Leighton) Egea & Torrente  
**proximata** (Nyl.) Egea & Torrente

**CROCEDIA** Link (Galloway & Elix 2013)  
**aurata** (Ach.) Link Syns.: Pseudocyphellaria aurata, Sticta aurata

**CROCYNIA** (Ach.) A. Massal.  
**gossypina** (Sw.) A. Massal.  
**pyxinoides** Nyl.  
aliciae Hue = Lepraria finkii (fide J. Lendemer)  
alpina B. de Lesd. = Lepraria neglecta



americana B. de Lesd. = Lepraria finkii (fide J. Lendemer)  
finkii B. de Lesd. = Lepraria finkii  
membranacea (Dickson) Zahlbr. = Lepraria membranacea  
moxleyi Plitt = non-lichenized Septobasidium sp.  
neglecta (Nyl.) Hue = Lepraria neglecta

#### **CRYPTODISCUS** Corda

\***cladoniicola** (D. Hawksw. & R. Sant.) Pino-Botas, Zhurb. & S. Stenroos Syn.: Lettauia cladoniicola (Pino-Bodas et al. 2017)  
\***epicladonia** Zhurb. & Pino-Bodas (Pino-Bodas et al. 2017)  
\***galaninae** Zhurb. & Pino-Bodas (Pino-Bodas et al. 2017)  
**gloeocapsa** (Nitschke ex Arnold) Baloch, Gilenstam & Wedin Syn.: Bryophagus gloeocapsa (Baloch et al. 2009)

#### **CRYPTOLECHIA** A. Massal.

**carneolutea** (Turner) A. Massal. Syns.: Gyalectina carneolutea, Gyalecta carneolutea  
**nana** (Tuck.) D. Hawksw. & Dibben (Lücking et al. 2011b)

#### **CRYPTOTHECIA** Stirton

**calusarum** F. Seavey & J. Seavey (Seavey et al. 2017)  
**effusa** (Müll. Arg.) R. Sant. (Lücking et al. 2011b)  
**evergladensis** Seavey (Seavey 2009)  
**fuscopunctata** F. Seavey & J. Seavey (Seavey & Seavey 2014a)  
**miniata** Vainio ex Lücking (Lücking et al. 2011b)  
**punctosorediata** Sparrius (Lücking et al. 2011b)  
**randallii** F. Seavey & J. Seavey (Seavey et al. 2017)  
**striata** G. Thor Syn.: Chiodecton montagnei sensu auct. N.A. (Thor 1991)  
**submacrocephala** F. Seavey & J. Seavey (Seavey et al. 2017)  
rubrocincta (Ehrenb. : Fr.) G. Thor = Herpothallon rubrocinctum

#### **CRYPTOTHELE** Th. Fr.

**granuliforme** (Nyl.) Henssen Syn.: Pyrenopsidium granuliforme, Pyrenopsis granuliformis  
**permiscens** (Nyl.) Th. Fr. Syn.: Pyrenopsis phylliscina

#### **CULBERSONIA** Essl. (Esslinger 2000a)

**nubila** (Moberg) Essl. (Esslinger 2002b)  
americana Essl. = C. nubila

#### **CYANISTICTA** Gyelnik

epiflavoides Gyelnik (Gyelnik 1931) = **Pseudocyphellaria epiflavoides**

#### **CYBEBE** Tibell = **CHAENOTHECA** (Tibell 2001)

gracilenta (Ach.) Tibell = Chaenotheca gracilenta (Tibell 2001)

#### **CYCLOHYMENIA** McCune & M. J. Curtis (McCune et al. 2017)

**epilithica** McCune & M. J. Curtis

#### **CYPHELIOPSIS** Vainio = **THELOMMA**

bolanderi (Tuck.) Vainio = Thelomma mammosum

#### **CYPHELIUM** Ach. = **CALICIUM** (Prieto & Wedin 2017)

**brachysporum** Nádv. Identity and disposition not indicated by Prieto & Wedin 2017  
andersonii Herre = Thelomma californicum  
**brunneum** W. A. Weber = Thelomma brunneum  
caliciforme (Flotow) Zahlbr. = **Pseudothelomma** occidentale for most North American records  
californicum (Tuck.) Zahlbr. = Thelomma californicum

carolinianum (Tuck.) Zahlbr. = [Calicium carolinianum](#)  
 chloroconium (Tuck.) Zahlbr. = [Acolium chloroconium](#)  
 farlowii (Tuck. ex Herre) Herre = [Thelomma californicum](#)  
 inquinans (Sm.) Trevisan = [Acolium inquinans](#)  
 karelicum (Vainio) Räsänen = [Acolium karelicum](#)  
 lucidum (Th. Fr.) Th. Fr. = [Calicium lucidum](#)  
 notarisii (Tul.) Blomb. & Forssell = [Calicium notarisii](#)  
 occidentale Herre = [Pseudothelomma occidentale](#)  
 ocellatum (Körber) Trevisan = [Pseudothelomma ocellatum](#)  
 pinicola Tibell = [Calicium pinicola](#)  
 sancti-jacobi (Tuck.) Zahlbr. = [Texosporium sancti-jacobi](#)  
 \*sessile (Pers.) Trevisan = [Acolium sessile](#)  
 tigillare (Ach.) Ach. = [Calicium tigillare](#)  
 tigillare subsp. notarisii (Tul.) W. A. Weber = [Calicum notarisii](#)  
 trachylioides (Nyl. ex Branth & Rostrup) Erichsen = [Calicium trachylioides](#)  
 ventricosulum (Müll. Arg.) Zahlbr. = [Acolium inquinans](#)

#### **CYPHOBASIDIUM** Millanes, Diederich & Wedin

\***hypogymniicola** (Diederich & Ahti) Millanes, Diederich & Wedin Syn.: [Cystobasidium hypogymniicola](#) (Millanes et al. 2016)  
 \***usneicola** (Diederich & Alstrup) Millanes, Diederich & Wedin Syn.: [Cystobasidium usneicola](#) (Millanes et al. 2016)

#### **CYSTOBASIDIUM** (Lagerh.) Neuhoff

\*hypogymniicola Diederich & Ahti (Diederich 1996) = [Cyphobasidium hypogymniicola](#) (Millanes et al. 2016)  
 \*usneicola Diederich & Alstrup (Diederich 1996) = [Cyphobasidium usneicola](#) (Millanes et al. 2016)

#### **CYSTOCOLEUS** Thwaites

**ebeneus** (Dillwyn) Thwaites

#### **DACAMPIA** A. Massal.

\***engeliana** (Sauter) A. Massal. (Henssen 1995)  
**hookeri** (Borrer) A. Massal.  
 \***lecaniae** Kocourk. & K. Knudsen (Kocourkova & Knudsen 2010)  
 \***rufescentis** (Vouaux) D. Hawksw. (Zhurbenko & Daniëls 2003)

#### **DACTYLINA** Nyl.

**arctica** (Hooker f.) Nyl.  
**beringica** C. D. Bird & J. W. Thomson (Treated as subsp. of *D. arctica* by Kärnefelt & Thell 1996)  
**ramulosa** (Hooker f.) Tuck.  
 madreporiformis (Ach.) Tuck = [Allocetraria madreporiformis](#)

#### **DACTYLOSPORA** Körber

\***aeruginosa** Holien & Ihlen (Ihlen et al. 2004a)  
 \***ahtii** Zhurb. & Pino-Bodas (Pino-Bodas et al. 2017)  
 \***amygdalariae** Triebel  
 \***athallina** (Müll. Arg.) Hafellner Syn.: [Karschia athallina](#)  
 \***attendenda** (Nyl.) Arnold  
 \***borealis** Holien & Ihlen (Ihlen et al. 2004a)  
 \***deminuta** (Th. Fr.) Triebel  
 \***frigida** Hafellner (Dillman et al. 2012)  
 \***glaucomarioides** (Willey ex Tuck.) Hafellner Syn.: [Buellia glaucomarioides](#), [Leciographa "glaucomarioidea"](#)  
 \***inquilina** (Tuck.) Hafellner Syn.: [Buellia inquilina](#), [Buelliella inquilina](#)  
 \***lobariella** (Nyl.) Hafellner Syn.: [Buelliella nuttallii](#)



- \***lurida** Hafellner (Harris & Lendemer 2005)
- \***parasitica** (Flörke ex Sprengel) Zopf Syn.: *Leciographa inspersa*, *Sclerophyton occidentale*
- \***parellaria** (Nyl.) Arnold
- \***pertusariicola** (Willey ex Tuck.) Hafellner Syn.: *Buellia pertusariicola*, *Leciographa pertusariicola*
- \***pleiosperma** Triebel (Hafellner et al. 2002)
- \***porphyrea** Hafellner & Kalb (Etayo & Breuss 1998)
- \***purpurascens** Triebel
- \***rhyparizae** Arnold (Zhurbenko 2013)
- \***saxatilis** (Schaerer) Hafellner var. **saxatilis** Syn.: *Buelliella saxatilis*
- \***suburceolata** [Coppins & Fryday \(McMullin et al. 2017\)](#)
- \***urceolata** (Th. Fr.) Arnold Syn.: *Leciographa urceolata*

#### DEGELIA Arv. & D. J. Galloway

*plumbea* (Lightf.) P. M. Jørg. & P. James = *Pectenium plumbea* (Ekman et al. 2014)

#### DENDRISCOCAULON Nyl.

**intricatum** (Nyl.) Henssen Syns.: *Leptogidium intricatum*, *Polychidium intricatum*  
**umhausense** (Auersw.) Degel. Syn.: *Polychidium umhausense*

#### DENDRISCOSTICTA B. Moncada & Lücking (Moncada et al. 2013)

**oroborealis** (Goward & Tønsberg) B. Moncada & Lücking Syn.: *Sticta oroborealis* (Moncada et al. 2013)  
**wrightii** (Tuck.) B. Moncada & Lücking Syn.: *Sticta wrightii* (Moncada et al. 2013)

#### DENDRODOCHIUM Bonord

\***subeffusum** Ellis & Everh.

#### DENDROGRAPHA Darb.

**alectoroides** Sundin & Tehler (Sundin & Tehler 1996)  
**conformis** (Tehler) Ertz & Tehler (Ertz & Tehler 2011)  
**decolorans** (Turner & Borrer ex Sm.) Ertz & Tehler (Ertz & Tehler 2011)  
**franciscana** (Zahlbr. ex Herre) Ertz & Tehler (Ertz & Tehler 2011)  
**leucophaea** (Tuck.) Darb. Syn.: *Roccella leucophaea*  
*minor* Darb. = *D. leucophaea* (Tuck.) Darb. (Sundin & Tehler 1996)

#### DERMATINA (Almq.) Zahlbr. = PEZICULA

"*pyrenocarpa*" (Nyl.) Zahlbr. = *Mycoporum compositum*

#### DERMATISCUM Nyl.

*catawbense* (Willey) Nyl. = *Dermiscellum oulocheila*

#### DERMATOCARPON Eschw.

**americanum** Vainio (Heidmarsson & Breuss 2004)  
**arenosaxi** Amtoft (Amtoft et al. 2008)  
**arnoldianum** Degel.  
**atrogranulosum** Breuss (Breuss 2003)  
**bachmannii** Anders (Heidmarsson & Breuss 2004)  
**dolomiticum** Amtoft (Amtoft et al. 2008)  
**intestiniforme** (Körber) Hasse  
**leptophyllodes** (Nyl.) [Vainio ex Hav.](#) (Heidmarsson & Breuss 2004, [Heidmarsson 2017](#))  
**linkolae** Räsänen (Goward et al. 1996)  
**lorenzianum** Anders  
**luridum** (With.) J. R. Laundon  
**luridum** var. **xerophilum** Amtoft (Amtoft et al. 2008)  
**meiophyllizum** Vainio (Glavich & Geiser 2004)  
**miniaturum** (L.) W. Mann Syn.: *Endocarpon miniaturum*

**moulinsii** (Mont.) Zahlbr.  
**muhlenbergii** (Ach.) Müll. Arg. (Amtoft et al. 2008)  
**multifolium** Amtoft (Amtoft et al. 2008)  
**polyphyllizum** (Nyl.) Blomb. & Forssell (Heidmarsson & Breuss 2004)  
**reticulatum** H. Magn.  
**rivulorum** (Arnold) Dalla Torre & Sarnth.  
 [Entosthelia saxicola B. de Lesd.]  
**schaechtlinii** Werner (Heidmarsson & Breuss 2004)  
**taminium** Heipmarsson (Heidmarsson 2003)  
**tenue** (Müll. Arg.) Heidmarsson (Heidmarsson 2003)  
**tomentulosum** Amtoft (Amtoft 2006)  
**vellereum** Zschacke  
 acarosporoides Zahlbr. = Placidium acarosporoides  
 aquaticum (Weiss) Zahlbr. = D. luridum  
 arboreum (Schwein.) Fink = Placidium arboreum  
 cinereum (Pers.) Th. Fr. = Catapyrenium cinereum  
 #compactum (A. Massal.) Lettau = Heteroplacidium compactum  
 daedaleum (Kremp.) Th. Fr. = Catapyrenium daedaleum  
 fluvatile (Weber) Th. Fr. = D. luridum  
 granulosum (B. de Lesd.) Zahlbr. = Catapyrenium granulosum  
 hepaticum auct. = Placidium squamulosum  
 hepaticum (Ach.) Th. Fr. = Catapyrenium cinereum  
 heppioides Zahlbr. = Placopyrenium heppioides  
 lachneum (Ach.) A. L. Sm. = Placidium lachneum  
 lecideoides (A. Massal.) Hasse = Placopyrenium lecideoides  
 leptophyllum (Ach.) Lång = D. miniatum  
 lyngei Servit Reported from Greenland and Iceland but not U. S. or Canada  
 michelii (A. Massal.) Zwackh = Placidium michelii  
 miniatum (L.) W. Mann var. complicatum (Lightf.) Th. Fr. = D. miniatum (Heidmarsson 2003)  
 novomexicanum (B. de Lesd.) Zahlbr. = Placidium acarosporoides  
 peltatum (Taylor) Zahlbr. = a sterile psoroid lichen; a misidentification for North America  
 plumbeum (B. de Lesd.) Zahlbr. = Verrucaria inficiens  
 polyphyllum (Wulfen) Dalla Torre & Sarnth. = D. intestiniforme  
 rufescens (Ach.) Th. Fr. = Placidium rufescens  
 rupicola (B. de Lesd.) Zahlbr. = Verrucaria othmarii (Knudsen & Kocourková 2012a)  
 squamellum (Nyl.) Herre = Catapyrenium squamellum  
 tuckermanii (Rav. ex Mont.) Zahlbr. = Placidium arboreum  
 vagans Imshaug = D. reticulatum H. Magn.  
 waltheri (Kremp.) Blomb. & Forssell = Involucropyrenidium waltheri  
 weberi (Ach.) W. Mann = D. luridum  
 zahlbruckneri Hasse = Placopyrenium stanfordii

#### **DERMISCELLUM** Hafellner, H. Mayrhofer & Poelt

**oulocheila** (Tuck.) Lendemer Syns.: Dermatiscum catawbense, Opegrapha oulocheila (Lendemer 2003)  
 catawbense (Willey) Hafellner & Poelt = D. Oulocheila

#### **DESMAZIERIA** Mont.

cephalota (Tuck.) Follmann & Huneck = Vermilacinia cephalota  
 ceruchis (Ach.) Trevisan = Vermilacinia ceruchis, but absent from North America (Spjut 1996)  
 combeoides (Nyl.) Follmann & Huneck = Vermilacinia combeoides  
 evernioides (Nyl.) Follmann & Huneck = Ramalina lacera  
 homalea (Ach.) Mont. = Niebla homalea  
 peruviana (Ach.) Follmann & Huneck = Ramalina peruviana  
 testudinaria (Nyl.) Follmann & Huneck = Niebla homalea



**DIBAEIS** Clem.

**absoluta** (Tuck.) Kalb & Gierl Syn.: *Baeomyces absolutus*  
**baeomyces** (L. f.) Rambold & Hertel Syn.: *Baeomyces roseus*  
*fungoides* (Sw.) Kalb & Gierl = A tropical species, not in North America  
*rosea* (Pers.) Clem. = *D. baeomyces*

**DICTYOCATENULATA** Finley & E. F. Morris

**alba** Finley & E. F. Morris (Lendemer & Harris 2004)

**DICTYOMERIDIUM** Aptroot, M. P. Nelsen & Lücking

**amylosporum** (Vainio) Aptroot, M. P. Nelsen & Lücking Syns.: *Campylothelium amylosporum*,  
*Polyblastiopsis dealbens* (Aptroot & Lücking 2016)  
**proponens** (Aptroot, M. P. Nelsen & Lücking) Aptroot, M. P. Nelsen & Lücking Syn.: *Polymeridium*  
*proponens* (Aptroot & Lücking 2016)

**DICTYONEMA** C. Agardh

**moorei** (Nyl.) Henssen  
**phyllogenum** (Müll. Arg.) Zahlbr. (Lücking et al. 2011b)  
**sericeum** (Sw.) Berk.  
*glabratum* (Sprengel) D. Hawksw. = *Cora glabrata*  
*guadalupense* (Rabenh.) Zahlbr. = *D. sericeum*  
*irpicinum* Mont. = misidentification for North America  
*pavonium* (Sw.) Parmasto = *Cora glabrata*, for North American reports

**DIDYMELLOPSIS** (P. A. Saccardo) Clem. & Shear

\***latitans** (Nyl.) Clem. & Shear (Zhurbenko 2009a)  
\***pulposi** (Zopf) Grube & Hafellner (Zhurbenko 2013)

**DIDYMOCYRTIS** Vainio

\***bryonthae** (Arnold) Hafellner Syn.: *Polycoccum bryonthae* (Ertz et al. 2015a)  
\***cladoniicola** (Diederich, Kocourk. & Etayo) Ertz & Diederich Syn.: *Phoma cladoniicola* (Ertz et al. 2015a)  
\***consimilis** Vainio (Ertz et al. 2015a)  
\***epiphyscia** Ertz & Diederich Syn.: *Phoma physciicola* (Ertz et al. 2015a)  
\***melanelixiae** (Brackel) Diederich, Harris & Etayo (Ertz et al. 2015a)  
\***xanthomendozae** (Diederich & Freebury) Diederich & Freebury Syn.: *Phoma xanthomendozae* (Ertz et al. 2015a)

**DIDYMOSPHAERIA** Fuckel

\***epicrassa** (H. Olivier) Vouaux = *Clypeococcum epicrassum*, but see note there

**DIGITOTHYREA** P. P. Moreno & Egea

**divergens** (Henssen) Moreno & Egea (Sweat et al. 2004)  
**polyglossa** (Nyl.) P. P. Moreno & Egea (Schultz 2002b)

**DIMELAENA** Norman

#**californica** (H. Magn.) Sheard  
#**lichenicola** K. Knudsen, Sheard, Kocourk. & H. Mayrhofer (Knudsen et al. 2013b)  
**oreina** (Ach.) Norman Syns.: *Rinodina oreina*, *R. hueana*, *R. novomexicana*, *R. suboreina*  
**radiata** (Tuck.) Müll. Arg. (Matzer et al. 1996) Syns.: *Buellia radiata*, *Rinodina radiata*  
**tenuis** (Müll. Arg.) H. Mayrhofer & Wippel (Beeching 2007)  
**thysanota** (Tuck.) Hale & W. L. Culb. Syn.: *Rinodina thysanota*  
**weberi** Sheard  
*angelica* (Stizenb.) Hale & W. L. Culb. = *Mobergia angelica*  
*chrysomelaena* (Ach.) Hale & W. L. Culb. = *Rinodina chrysomelaena*

novomexicana (B. de Lesd.) Hale & W. L. Culb. = D. oreina  
suboreina (B. de Lesd.) Hale & W. L. Culb. = D. oreina

**DIMERELLA** Trevisan = COENOGONIUM (Lücking & Kalb 2000)

diluta (Pers.) Trevisan = Coenogonium pineti  
lutea (Dickson) Trevisan = Coenogonium luteum  
pineti (Ach.) Vězda = Coenogonium pineti

**DIMIDIOGRAPHIA** Ertz & Tehler (Ertz & Tehler 2011)

**longissima** (Müll. Arg.) Ertz & Tehler (Ertz & Tehler 2011) Syn.: Graphis, atrorubens, Opegrapha longissimi

**DINEMASPORIUM** Lév.

\***strigosum** (Fr.) Sacc. (Alstrup & Cole 1998)

**DIORYGMA** Eschw.

**antillarum** (Vainio) Nelsen, Lücking & Rivas Plata (Nelsen et al. 2012) Syn.: Herpothallon antillarum  
**basinigrum** F. Seavey & J. Seavey (Seavey & Seavey 2014a)  
**junghuhnii** (Mont. & Bosch) Kalb, Staiger & Elix (Tripp et al. 2010)  
**microsporum** M. Cáceres & Lücking (Lumbsch et al. 2011; Lücking et al. 2011b)  
**poitaei** (Fée) Kalb, Staiger & Elix (Kalb et al. 2004) Syn.: Graphina virginea  
**pruinoseum** (Ehrh.) Kalb Syn.: Graphina platyleuca (Tripp et al. 2010)  
**reniforme** (Fée) Kalb, Staiger, & Elix (Tripp et al. 2010)

**DIPLOICIA** A. Massal.

**canescens** (Dickson) A. Massal. Syn.: Buellia canescens

**DIPLOLAEVIOPSIS** Giralt & D. Hawksw.

\***ranula** Giralt & D. Hawksw. (Diederich 2003)

**DIPLOSCHISTELLA** Vainio

**athalloides** (Nyl.) Lücking, Knudsen & Fryday (Lücking et al. 2007) Syn.: Rhizocarpon athalloides

**DIPLOSCHISTES** Norman

**actinostomus** (Ach.) Zahlbr. Syn.: Urceolaria actinostoma  
**aeneus** (Müll. Arg.) Lumbsch  
**arabiensis** Lumbsch  
**badius** Lumbsch & Elix  
**caesioplumbeus** (Nyl.) Vainio (Lumbsch 2002)  
**candidissimus** (Kremp.) Zahlbr. (Esslinger & Egan 1995)  
**diacapsis** (Ach.) Lumbsch Syn.: Urceolaria albissima  
**gypsaceus** (Ach.) Zahlbr.  
**hypoleucus** Zahlbr.  
**muscorum** (Scop.) R. Sant. subsp. **muscorum**  
**scruposus** (Schreber) Norman Syn.: Urceolaria scruposa  
albissimus (Ach.) Dalla Torre & Sarnth. = D. diacapsis  
bisporus (Bagl.) J. Steiner = Ingvariella bisporus  
bryophilus (Ehrh. ex Ach.) Zahlbr. = D. muscorum subsp. muscorum  
canadensis Räsänen = D. muscorum subsp. muscorum  
scruposus (Schreber) Norman var. parasiticus (Sommerf.) Zahlbr. = D. muscorum  
stramineus Zahlbr. = D. hypoleucus

**DIPLOTOMMA** Flotow

**alboatrum** (Hoffm.) Flotow Syns.: Buellia alboatra, Rhizocarpon alboatrum  
**ambiguum** (Ach.) Flagey Syn.: Buellia ambigua  
**chlorophaeum** (Hepp ex Leighton) Szatala Syns.: Rhizocarpon chlorophaeum, Buellia chlorophaea



**nivalis** (Bagl. & Carestia) Hafellner (Hafellner & Türk 1995) Syn.: Buellia nivalis  
**penichrum** (Tuck.) Szatala Syns.: Buellia penichra, Rhizocarpon penichrum  
**venustum** (Körber) Körber Syn.: Buellia epipolia, B. venusta, B. lecanoroides, Rhizocarpon cumulatum  
 epipolium sensu auct. = D. venustum (Nordin 1996, McCune 2017)  
 epipolium (Ach.) Arnold = D. alboatrum (Nordin 1996, McCune 2017)  
 \*pulverulentum (Anzi) D. Hawksw. (Molina et al. 2002) = Tetramelas pulverulentus

#### **DIRINA** Fr.

**catalinariae** Hasse  
**massiliensis** Durieu & Mont. (Harris & Ladd 2005; reported as f. soledata)  
**paradoxa** (Fée) Tehler  
 approximata Zahlbr. subsp. hioramii (B. de Lesd.) Tehler = D. paradoxa  
 calcicola Sparrius (Sparrius 2004a) = Fulvophyton calcicola (Tehler et al. 2013)  
 californica Tuck. = Sigridea californica  
 franciscana Zahlbr. ex Herre = Dendrographa franciscana  
 hassei Zahlbr. = Sigridea californica  
 rediunta Hasse = Schismatomma rediunta

#### **DIRINARIA** (Tuck.) Clem.

**aegialita** (Afz.) B. J. Moore Syn.: Physcia aspera, P. aegialita  
**applanata** (Fée) D. D. Awasthi  
**confluens** (Fr.) D. D. Awasthi  
**confusa** D. D. Awasthi  
**confusa** var. **saxicola** (Räsänen) D. D. Awasthi  
**frostii** (Tuck.) Hale & W. L. Culb. Syns.: Physcia frostii, Pyxine frostii  
**leopoldii** (Stein) D. D. Awasthi  
**neotropica** Kalb (Kalb 2004a)  
**papillulifera** (Nyl.) D. D. Awasthi  
**picta** (Sw.) Clem. & Shear Syns.: Physcia picta, Pyxine picta  
**purpurascens** (Vainio) B. J. Moore Syn.: Physcia purpurascens  
 aspera (H. Magn.) D. D. Awasthi = D. aegialita

#### **DISCOTHECIUM** Zopf = **ENDOCOCCUS** Nyl.

\*gemmiferum Vouaux = an uncertain species of Endococcus

#### **DISTOPYRENIS** Aptroot

**americana** Aptroot  
**pachyospora** Aptroot (Harris 1995a)  
**quercicola** R. C. Harris (Harris 1995a)  
**submuriformis** R. C. Harris (Harris 1995a)

#### **DITREMIS** Clem. = **ANISOMERIDIUM**

albiseda (Nyl.) R. C. Harris = Anisomeridium albisedum  
 ambigua (Zahlbr.) R. C. Harris = Anisomeridium ambiguum  
 anisoloba (Müll. Arg.) R. C. Harris = Anisomeridium anisolobum  
 biformis (Borrer) R. C. Harris = Anisomeridium biforme  
 carinthiaca (Steiner) R. C. Harris = Anisomeridium carinthiacum  
 distans (Willey) R. C. Harris = Anisomeridium distans  
 finkii R. C. Harris = Anisomeridium finkii  
 leucochlora (Müll. Arg.) R. C. Harris = Anisomeridium leucochlorum  
 macrospora R. C. Harris = Anisomeridium aureopunctatum  
 nyssigena (Ellis & Everh.) R. C. Harris = Anisomeridium polypori  
 quaternaria R. C. Harris = Anisomeridium quaternarium  
 sanfordensis (Zahlbr.) R. C. Harris = Anisomeridium excaecariae  
 subprostans (Nyl.) R. C. Harris = Anisomeridium subprostans

tamarindii (Fée) R. C. Harris = Anisomeridium tamarindii  
terminata (Nyl.) R. C. Harris = Anisomeridium terminatum  
tuckerae (R. C. Harris) R. C. Harris = Anisomeridium tuckerae

DUFOUREA Ach.  
madreporiformis (Ach.) Ach. = Allocetraria madreporiformis

DYPLOLABIA A. Massal.  
afzelii (Ach.) A. Massal. Syn.: Graphis afzelii (Staiger 2002)

ECHINODISCUS Etayo & Diederich  
\*lesdainii (Vouaux) Etayo & Diederich (Kocourková et al. 2010)

ECHINOPLACA Fée  
areolata Lücking & W. R. Buck (Lücking et al. 2007)  
basalis W. B. Sanders & Lücking (Sanders & Lücking 2015)  
furcata Sérus. subsp. neotropica Lücking (Lücking et al. 2007)  
intercedens Vězda  
leucotrichoides (Müll. Arg.) R. Sant. (Lücking et al. 2011b)  
lucernifera Kalb & Vězda (Lücking et al. 2007)  
pellicula (Müll. Arg.) R. Sant.  
similis Kalb & Vězda (Lücking et al. 2007)  
tetraplaca (Zahlbr.) Lücking (Lücking (Lücking et al. 2007)

ECHINOTHECIUM Zopf  
\*aerophilum Alstrup & M. S. Cole (Alstrup & Cole 1998)  
\*reticulatum Zopf = Sphaerellothecium reticulatum

EDRUDIA W. P. Jordan  
constipans (Nyl.) W. P. Jordan Syn.: Caloplaca constipans, Lecanora constipans

EIGLERA Hafellner  
flavida (Hepp) Hafellner Syns.: Lecanora flavida, Aspicilia flavida

ELIXIA Lumbsch  
flexella (Ach.) Lumbsch (Spribille & Björk 2008)

ELLISEMBIA Subram.  
\*lichenicola Heuchert & U. Braun (Heuchert & Braun 2006)

ENCHYLIUM (Ach.) Gray (Otálora et al. 2014)  
bachmanianum (Fink) Otálora, P. M. Jørg. & Wedin Syns.: Collema bachmanianum, Collemodes bachmanianum  
coccophorum (Tuck.) Otálora, P. M. Jørg. & Wedin Syns.: Collema coccophorum, C. dubium, C. novomexicanum, Synechoblastus coccophorus  
conglomeratum (Hoffm.) Otálora, P. M. Jørg. & Wedin Syns.: Collema conglomeratum, C. pycnocarpum, Synechoblastus ohioense, S. cyrtaspis, S. pycnocarpus  
expansum (Degel.) P. M. Jørg. Syn.: Collema tenax var. expansum (Jørgensen & Goward 2015)  
limosum (Ach.) Otálora, P. M. Jørg. & Wedin Syns.: Collema glaucescens, C. limosum  
polycarpon (Hoffm.) Otálora, P. M. Jørg. & Wedin Syns.: Collema polycarpon, Synechoblastus polycarpus, S. wyomingensis  
substellatum (H. Magn.) P. M. Jørg. (Jørgensen & Goward 2015)  
tenax (Sw.) Gray Syn.: Collema tenax

ENDOCARPON Hedwig



**adscendens** (Anzi) Müll. Arg.  
**adsurgens** Vainio  
**lepidallum** Nyl.  
**loscosii** Müll. Arg. (Breuss 2002a)  
**pallidulum** (Nyl.) Nyl. (Breuss 2002a)  
**pallidum** Ach.  
**petrolepideum** (Nyl.) Nyl.  
**pseudosubnitescens** Breuss (Knudsen 2005b)  
**pulvinatum** Th. Fr. Syns.: *Pyrenothamnia brandegei*, *P. spraguei*  
**pusillum** Hedwig  
**schisticola** B. de Lesd. (Breuss 2002a)  
**simplicatum** (Nyl.) Nyl. (Breuss 2002a)  
**subnitescens** Nyl.  
**tortuosum** Herre  
 arboreum Schwein. (Mohr 1901) = *Placidium arboreum*  
**diffractellum** (Nyl.) Gueidan & Cl. Roux (Gueidan et al. 2007) = *Willeya diffractella* (Gueidan & Lendemer 2015)  
*drummondii* (Tuck.) M. Choisy = *Staurothele drummondii*  
*miniaturum* (L.) Schaerer (Mohr 1901) = *Dermatocarpon miniaturum*  
*moenium* Vainio = *Acarospora moenium*  
*monicae* Zahlbr. = *Staurothele monicae*  
*\*ochroleucum* Tuck. = *Heterocarpon ochroleucum*  
**tenuissimum** (Degel.) Lendemer & E. Tripp = *Willeya diffractella* (Gueidan & Lendemer 2015)  
*tuckermanii* Rav. ex Mont. = *Placidium arboreum* (Lendemer & Yahr 2004)  
*wilmsoides* Zahlbr. = *Staurothele drummondii*

#### ENDOCOCCUS Nyl.

*\*apiciicola* (J. Steiner) R. Sant. (Diederich 2003)  
*\*incrassatus* Etayo & Breuss (Knudsen & Kocourková 2008b)  
*\*macrosporus* (Arnold) Nyl. (Hafellner et al. 2002)  
*\*matzeri* D. Hawksw. & Iturr. (Knudsen & Kocourková 2009b)  
*\*nanellus* Ohlert (Diederich 2003)  
*\*oreinae* Hafellner (Hafellner et al. 2002)  
*\*perpusillus* Nyl.  
*\*propinquus* (Körber) D. Hawksw.  
*\*rugulosus* Nyl. (Knudsen & Kocourková 2010b)  
*\*stigma* (Körber) Stizenb. (Hafellner et al. 2002)  
*\*thelommatis* Kocourk. & K. Knudsen (Kocourková & Knudsen 2011)  
*\*verrucosus* Hafellner (Hafellner et al. 2002)  
*\*zahlbrucknerellae* (Henssen) D. Hawksw. Syn.: *Ticothecium zahlbrucknerella*  
*\*buelliae* (C. W. Dodge) Matzer (Matzer et al. 1996) = *E. matzeri* for North American reports

#### ENDOHYALINA Marbach

**ericina** Giralt, van den Boom & Elix var. **ericina** (Giralt et al. 2010)  
*\*insularis* (Arnold) Giralt, van den Boom & Elix Syn.: *Rinodina insularis* (Nadyeina et al. 2010)  
**rappii** (Imshaug ex R. C. Harris) Marbach Syn.: *Buellia rappii* (Marbach 2000)  
*circumpallida* (H. Magn.) Marbach (Marbach 2000) = *Buellia circumpallida* (Giralt et al. 2010)

#### ENDOPYRENIUM Flotow

*americanum* B. de Lesd. = *Verrucaria americana*  
*bajadanae* B. de Lesd. = *Placidium acarosporoides*  
*crustaceum* B. de Lesd. = *Catapyrenium granulosum*  
*granulosum* B. de Lesd. = *Catapyrenium granulosum*  
*novomexicanum* B. de Lesd. = *Placidium acarosporoides*  
*plumbeum* B. de Lesd. = *Verrucaria inficiens*

rupicola B. de Lesd. = Verrucaria othmarii  
tuckermanii (Rav. ex Mont.) Müll. Arg. = Placidium arboreum

#### ENTEROGRAPHA Fée

\*[bagliettoae](#) F. Seavey & J. Seavey (Seavey et al. 2017)  
**bradleyana** F. Seavey & J. Seavey (Seavey & Seavey 2014b)  
**caudata** F. Seavey & J. Seavey (Seavey & Seavey 2014b)  
**hutchinsiae** (Leighton) A. Massal. (Sparrius 2004b)  
[johnsoniae](#) F. Seavey & J. Seavey (Seavey et al. 2017)  
[keylargoensis](#) F. Seavey & J. Seavey (Seavey et al. 2017)  
**murrayana** F. Seavey & J. Seavey (Seavey & Seavey 2014b)  
**nitidula** F. Seavey & J. Seavey (Seavey & Seavey 2014b)  
**oregonensis** Sparrius & Björk (Sparrius & Björk 2008)  
\***osagensis** C. A. Morse (Morse 2013)  
**pallidella** (Nyl.) Redinger (Seavey & Seavey 2012)  
**quassiicola** Fée  
**subserialis** (Nyl.) Redinger (Seavey & Seavey 2014a)  
**zonata** (Körber) Källsten Syn.: Opegrapha zonata (Ertz et al. 2009)  
[anguinella](#) (Nyl.) Redinger (Sparrius 2004b) = *Opegrapha anguinella*  
carnea (Eckfeldt) R. C. Harris = Mazosia carnea  
elegans (Eschw.) Tuck. = Sclerophyton elegans  
lecanoroides R. C. Harris = [Opegrapha anguinella](#)

#### ENTEROSTIGMA Müll Arg.

montagnaei (Tuck) Fink (Fink 1935) = Cryptothecia striata (Thor 1991)

#### ENTOSTHELIA (Wallr.) Hue

saxicola B. de Lesd. = unknown Dermatocarpon sp.

#### EOPYRENULA R. C. Harris

**intermedia** Coppins Syn.: Pyrenula leucoplaca var. pluriloculata  
**parvispora** R. C. Harris & Aptroot  
leucoplaca (Wallr.) R. C. Harris = misidentification for North America (fide R. Harris)

#### EPAPHROCONIDIA Calatayud & V. Atienza

\***hawksworthii** Calatayud & V. Atienza (Diederich 2003)

#### EPHEBE Fr.

**americana** Henssen  
**hispidula** (Ach.) Horw. Syn.: Ephebeia hispidula  
**lanata** (L.) Vainio  
**ocellata** Henssen  
**perspinulosa** Nyl.  
**solida** Bornet  
mamillosum (Lyngb.) E. Fr. (Fink 1935) Possibly Stigonema mamillosum, a cyanobacterium  
pubescens (Ach.) Fr. = Pseudephebe pubescens

#### EPHEBEIA Nyl. = EPHEBE

hispidula (Ach.) Nyl. = Ephebe hispidula

#### EPICLADONIA D. Hawksw.

\***sandstedei** (Zopf) D. Hawksw. (Scholz 1998)  
\***simplex** D. Hawksw. (Esslinger & Egan 1995)  
\***stenospora** (Harm) D. Hawksw. (Zhurbenko & Pino-Bodas 2017)



**EPICOCCUM** Link  
\***purpurascens** Schltdl. (Diederich 2003)

**EPIGLOEA** Zukał  
**intermedia** Döbbeler (Lendemer & Harris 2004)  
**medioincrassata** (Grumann) Döbbeler (Fryday 2004a)  
**pleiospora** Döbbeler (Buck & Harris 2002)  
**renitens** (Grumann) Döbbeler (Spribille et al. 2010)  
**soleiformis** Döbbeler (Buck & Harris 2002)

**EPILICHEN** Clem.  
#**glauconigellus** (Nyl.) Hafellner (Zhurbenko 2009a)  
\***scabrosus** (Ach.) Clem. Syn.: *Buellia scabrosa*  
\***stellatus** Triebel

**EPITHAMNOLIA** Zhurb. (Zhurbenko 2012)  
\***karatyginii** Zhurb.

**ERINACELLUS** T. Sprib., Muggia & Tønsberg (Spribille et al. 2014b)  
**dendroides** (Henssen) T. Sprib., Muggia & Tønsberg Syn.: *Spilonema dendroides*

**ERIODERMA** Fée  
**mollissimum** (Samp.) Du Rietz  
**pedicellatum** (Hue) P. M. Jørg.  
**sorediatum** D. J. Galloway & P. M. Jørg.  
boreale Ahlner = *E. pedicellatum*

**ERYTHRICIUM** J. Erikss. & Hjortstam (Hawksworth & Helcini 2015)  
\***aurantiacum** (Lasch) D. Hawksw. & A. Henrici Syn.: *Marchandiobasidium aurantiacum*  
(Hawksworth & Helcini 2015)

**ESCHATOGONIA** Trevisan  
**prolifera** (Mont.) R. Sant. (Seavey et al. 2014)

**ESSLINGERIANA** Hale & M. J. Lai  
**idahoensis** (Essl.) Hale & M. J. Lai Syn.: *Cetraria idahoensis*

**ETAYOA** Diederich & Ertz (Ertz et al. 2014)  
\***trypethelii** (Flakus & Kukwa) Diederich & Ertz

**EUGENIELLA** Lücking, Sérus. & Kalb (Lücking et al. 2011b)  
**leucocheila** (Tuck.) Lücking, Sérus. & Kalb (Lücking et al. 2011b)

**EUOPSIS** Nyl.  
**granatina** (Sommerf.) Nyl. Syn.: *Pyrenopsis granatina*, *Lecanora granatina*, *Pannaria granatina*  
**pulvinata** (Schaerer) Nyl. Syn.: *Pyrenopsis pulvinata*

**EVERNIA** Ach.  
**divaricata** (L.) Ach.  
**mesomorpha** Nyl.  
**perfragilis** Llano  
**prunastri** (L.) Ach.  
ceratea (Ach.) Zopf (Fink 1935) = *Pseudevernia furfuracea* (L.) Zopf, but a misidentification for North America  
esorediosa (Müll. Arg.) Du Rietz = misidentification for North America (Bird 1974)  
furfuracea (L.) W. Mann = *Pseudevernia consocians* and *P. intensa* for North American records

thamnodes (Flotow) Arnold = *E. mesomorpha*  
vulpina (L.) Ach. = *Letharia vulpina*

EVERNIASTRUM Hale ex Sipman = HYPOTRACHYNA (Divakar et al. 2013)  
catawbiense (Degel.) Hale ex Sipman = *Hypotrachyna catawbiensis*  
sorocheilum (Vainio) Hale ex Sipman = *Hypotrachyna sorocheila*, but reports apparently based on *H. catawbiense*

EVERNICOLA D. Hawksw.  
\***flexispora** D. Hawksw.

FARNOLDIA Hertel  
**hypocrita** (A. Massal.) Fröberg Syns.: *Lecidea hypocrita*, *L. lithospersa*, *L. ypocrita*  
**jurana** (Schaerer) Hertel Syns.: *Lecidea jurana*, *L. albosuffusa*, *Tremolecia jurana*, *Melanolecia jurana*  
**micropsis** (A. Massal.) Hertel Syns.: *Lecidea rhaetica*, *Melanolecia micropsis*, *Tremolecia nivalis*, *T. micropsis*

FAYODIA Kühner  
\***leucophylla** (Gillet) M. T. Lange = *Gamundia leucophylla* (Bigelow 1983)  
\***striatula** (Kühner) Singer = *Gamundia striatula* (Raitelhuber 1983)

FELIPES Frisch & G. Thor (Frisch et al. 2014)  
**leucopellaeus** (Ach.) Frisch & G. Thor Syn.: *Arthonia leucopellaea*

FELLHANERA Vězda  
**aurantiaca** (Vězda) Vězda Syn.: *Bacidia aurantiaca*  
**bouteillei** (Desm.) Vězda Syn.: *Catillaria bouteillei*  
**crucitignorum** C. A. Morse & Ladd (Morse & Ladd 2013)  
**eriniae** R. C. Harris & Lendemer (Harris & Lendemer 2009)  
**fallax** R. C. Harris & Lendemer (Harris & Lendemer 2009)  
**floridana** (Tuck.) S. Ekman Syn.: *Bacidia floridana*, *Biatora floridana*, *Bilimbia floridana*  
**granulosa** R. C. Harris & Lendemer (Harris & Lendemer 2009)  
**hybrida** R. C. Harris & Lendemer (Harris & Lendemer 2009)  
**minnisinkorum** R. C. Harris & Lendemer (Harris & Lendemer 2009)  
**montesfumosi** R. C. Harris & Lendemer (Harris & Lendemer 2009)  
**rhapidophylli** (Rehm)Vězda (Seavey & Seavey 2014a)  
**silicis** R. C. Harris & Ladd (Harris & Lendemer 2009)  
**subtilis** (Vězda) Diederich & Sérus. (Goward et al. 1996)

FELLHANEROPSIS Sérus. & Coppins  
**myrtillicola** (Erichsen) Sérus. & Coppins (Lendemer & Knudsen 2011)  
**vezdae** (Coppins & P. James) Sérus. & Coppins (Tønsberg 1997)

FIBRILLITHECIS A. Frisch (Frisch 2006)  
**confusa** Lücking, Kalb & Rivas Plata (Rivas Plata et al. 2010)  
**halei** (Tuck. & Mont.) Mangold Syns.: *Myriotrema halei*, *Thelotrema halei* (Lücking et al. 2016)  
**insignis** (Zahlbr.) A. Frisch (Frisch 2006) = *F. confusa* (Rivas Plata et al. 2010)

FISSURINA Fée  
**aggregatula** Common & Lücking (Lücking et al. 2011b)  
**albolabiata** F. Seavey & J. Seavey (Seavey et al. 2017)  
**alligatorensis** Lendemer & R. C. Harris (Lendemer & Harris 2014a)  
**americana** Lendemer & R. C. Harris (Lendemer & Harris 2014a)  
**analphabetica** Common & Lücking (Lücking et al. 2011b)  
**cingalina** (Nyl.) Staiger (Lücking et al. 2011b)  
**columbina** (Tuck.) Staiger Syns.: *Graphina columbina*, *G. virginalis*, *Graphis columbina*,



*Phaeographina columbina* (Staiger 2002)  
**confusa** Common & Lücking (Lücking et al. 2011b)  
**crassilabra** Mont. & Bosch (Lücking et al. 2011b)  
**cypressi** (Müll. Arg.) Lendemer Syn.: *Graphina cypressi* (Lendemer 2007a)  
**dumastioides** (Fink) Staiger Syn.: *Graphina dumastioides*, *Graphis dumastioides* (Staiger 2002)  
**egena** (Nyl.) Nyl. (Lücking et al. 2011b)  
**humilis** (Vainio) Staiger (Staiger & Kalb 2004)  
**illicola** Lendemer & R. C. Harris (Lendemer & Harris 2014a)  
**illiterata** (R. C. Harris) Lendemer Syn.: *Graphis illiterata* (Lendemer & Knudsen 2008b)  
**incisura** F. Seavey & J. Seavey (Seavey et al. 2017)  
**incrustans** Fée Syn.: *Graphina incrustans*, *G. glaucoderma*, *Graphis incrustans* (Staiger 2002)  
**insidiosa** C. Knight & Mitten Syn.: *Graphis beaumontii*, *G. insidiosa* (Staiger 2002)  
**inspersa** Common & Lücking (Lücking et al. 2011b)  
**insculpta** Mont. Syn.: *Graphina babingtonii* (Staiger 2002, Tripp et al. 2010)  
**leuconephela** Nyl. Syn.: *Graphina leuconephela* (Staiger 2002, Tripp et al. 2010)  
**mexicana** (Zahlbr.) Lücking & Rivas Plata (Lücking et al. 2011b)  
**nitidescens** (Nyl.) Nyl. Syn.: *Graphina nitidescens*, *Graphis nitidescens* (Staiger 2002)  
**pseudostromatica** Lücking & Rivas Plata (Lücking et al. 2011b)  
**radiata** Mont. (Lücking et al. 2011b)  
**rufula** (Mont.) Staiger Syn.: *Graphis rufula* (Staiger 2002)  
**scolecitis** (Tuck.) Lendemer Syn.: *Graphina scolecitis*, *Graphis scolecitis* (Lendemer 2007a) North American records of *Graphina adscribens* belong here  
**subcomparimuralis** Common & Lücking (Lumbsch et al. 2011; Lücking et al. 2011b)  
**subnitida** (Nyl.) Zahlbr. (Staiger 2002, Tripp et al. 2010)  
**subnitidula** (Nyl.) Staiger Syn.: *Graphina subnitidula*, *Graphis subnitidula* (Staiger 2002)  
**tachygrapha** (Nyl.) Staiger (Lücking et al. 2011b)  
**tuckermaniana** Common & Lücking (Lücking et al. 2011b)  
**varieseptata** Common & Lücking (Lücking et al. 2011b)  
*subcontexta* (Nyl.) Nyl. = *F. rufula* (Lücking et al. 2011b)

#### FISTULARIELLA Bowler & Rundel

*almquistii* (Vainio) Bowler & Rundel = *Ramalina almquistii*  
*dilacerata* (Hoffm.) Bowler & Rundel = *Ramalina dilacerata*  
*geniculata* (Hooker f. & Taylor) Bowler & Rundel = *Ramalina geniculata*  
*inflata* (Hooker f. & Taylor) Bowler & Rundel = *Ramalina inflata*  
*minuscule* (Nyl.) Bowler & Rundel = *Ramalina dilacerata*  
*roesleri* (Hochst. ex Schaerer) Bowler & Rundel = *Ramalina roesleri*  
*scoparia* (Vainio) Bowler & Rundel = *Ramalina scoparia*

#### FLAKEA O. E. Erikss. (Hansen 2003; Perlmutter 2006)

**papillata** O. E. Erikss. (Hansen 2003; Perlmutter 2006)

#### FLAVOCETRARIA Kärnefelt & A. Thell

**cucullata** (Bellardi) Kärnefelt & A. Thell Syn.: *Cetraria cucullata*, *Allocetraria cucullata*  
**minuscule** (Elenkin & Savicz) Ahti, Poryadina & Zhurb. (Zhurbenko et al. 2005)  
**nivalis** (L.) Kärnefelt & A. Thell Syn.: *Cetraria nivalis*, *Allocetraria nivalis*

#### FLAVOPARMELIA Hale

**baltimorensis** (Gyelnik & Föris) Hale Syn.: *Parmelia baltimorensis*, *Pseudoparmelia baltimorensis*  
**caperata** (L.) Hale Syn.: *Parmelia caperata*, *P. cylisphora*, *P. flavicans*, *P. herreana*, *P. negativa*, *Pseudoparmelia caperata*  
**rutidota** (Hooker f. & Taylor) Hale Syn.: *Parmelia rutidota*, *Pseudoparmelia rutidota*, and *P. conspersa* var. *subconspersa* and *Xanthoparmelia subconspersa* for North American records.  
**subcapitata** (Nyl. ex Hasse) Hale ex DePriest & B. Hale (Knudsen et al. 2005) Syn.: *Parmelia subcapitata*  
 [P*armelia concreta* Stizenb.] This name was apparently never effectively published; identified as an

uncertain species of Flavoparmelia by Hale & DePriest (1999), although an apparent ‘type’ specimen in FH was annotated by Mason Hale as an *Aspicilia* sp.

**FLAVOPLACA** Arup, Søchting & Frödén (Arup et al. 2013)

**austrocitrina** (Vondrák, Říha, Arup & Søchting) Arup, Søchting & Frödén Syn.: *Caloplaca austrocitrina*

**citrina** (Hoffm.) Arup, Frödén & Søchting Syn.: *Caloplaca citrina*

**flavocitrina** (Nyl.) Arup, Frödén & Søchting Syn.: *Caloplaca flavocitrina*

**granulosa** (Müll. Arg.) Arup, Frödén & Søchting Syn.: *Caloplaca granulosa*

**marina** (Wedd.) Arup, Frödén & Søchting Syn.: *Caloplaca marina*

**microthallina** (Wedd.) Arup, Frödén & Søchting Syn.: *Caloplaca microthallina*

**FLAVOPUNCTELIA** (Krog) Hale

**darrowi** (J. W. Thomson) Hale Syn.: *Parmelia darrowi*, *Punctelia darrowi*

**flaventior** (Stirton) Hale Syn.: *Parmelia flaventior*, *P. andreana*, *P. kernstockii*, *Punctelia flaventior*

**praesignis** (Nyl.) Hale Syn.: *Parmelia praesignis*, *P. incorrupta*, *P. caperata* var. *incorrupta*, *Punctelia praesignis*

**soredica** (Nyl.) Hale Syn.: *Parmelia soredica*, *P. ulophyllodes*, *P. manshurica*, *Punctelia soredica*

**FORAMINELLA** S. F. Meyer = **PARMELIOPSIS**

**FORSSELLIA** Zahlbr. = **PTERYGIOPSIS**

*minnesotensis* (Fink) Fink = *Lichinella minnesotensis*

*neglecta* Erichsen = *Pterygiopsis neglecta*

**FOURAGEA** Trevisan (Frisch et al. 2014)

**filicina** (Mont.) Trevisan Syn.: *Opegrapha filicina* (Frisch et al. 2014)

**FRUTIDELLA** Kalb (Kalb 1994)

**caesioatra** (Schaerer) Kalb (Kalb 1994) Syn.: *Lecidea caesioatra*, *L. arctica*

**pullata** (Norman) Schmull (Schmull et al. 2011) Syn.: *Biatora pullata*, *Lecidea pullata*

**FULGENSIA** A. Massal. & De Not. = **GYALOLECHIA** (Arup et al. 2013)

*bracteata* (Hoffm.) Räsänen subsp. *bracteata* = *Gyalolechia bracteata* subsp. *bracteata*

*bracteata* subsp. *bracteata* var. *alpina* (Th. Fr.) Poelt = *Gyalolechia bracteata* subsp. *bracteata* var. *alpina*

*bracteata* subsp. *deformis* Poelt (Esslinger & Egan 1995) = *Gyalolechia bracteata* subsp. *deformis*

*desertorum* (Tomin) Poelt = *Gyalolechia desertorum*

*fulgens* (Sw.) Elenkin = *Gyalolechia fulgens*

*subbracteata* (Nyl.) Poelt (Brodo et al. 2001, Kasalicky 2004) = *Gyalolechia subbracteata*

**FULGIDEA** Bendiksby & Timdal (Bendiksby & Timdal 2013)

**oligospora** (Timdal) Bendiksby & Timdal Syn.: *Hypocenomyce oligospora*

**sierrae** (Timdal) Bendiksby & Timdal Syn.: *Hypocenomyce sierrae*

**FULVOPHYTON** Ertz & Tehler

**callicola** (Sparrius) Tehler & Ertz Syn.: *Dirina callicola* (Tehler et al. 2013)

**FUSARIUM** Link

\***peltigerae** Westend. (Spribille et al. 2010)

**FUSCIDEA** V. Wirth & Vězda

**aleutica** (Degel.) Fryday (Fryday 2008)

**appalachensis** Fryday (Fryday 2008)

**arboricola** Coppins & Tønsberg

**gothoburgensis** (H. Magn.) V. Wirth & Vězda (Fryday 2006)



**intercincta** (Nyl.) Poelt  
**lowensis** (H. Magn.) R. A. Anderson & Hertel Syn.: *Lecidea lowensis*  
**mollis** (Wahlenb.) V. Wirth & Vězda Syn.: *Lecidea mollis*  
**praeruptorum** (Du Rietz & H. Magn.) V. Wirth & Vězda Syn.: *Lecidea praeruptorum*  
**pusilla** Tønsberg  
**recensa** (Stirton) Hertel, V. Wirth & Vězda Syn.: *Lecidea recensa*  
**recensa** var **arcuatula** (Arnold) Fryday Syn. *Lecidea arcuatula*, *L. gyrodes* (Fryday 2008)  
**scrupulosa** (Eckfeldt) Fryday (Fryday 2008) Syn.: *Biatora scrupulosa*, *Lecidea scrupulosa*, *L. kochiana* var. *subreagens*  
**texana** Fryday (Fryday 2008)  
**thomsonii** Brodo & V. Wirth (Brodo & Wirth 1998)  
*cyathoides* (Ach.) V. Wirth & Vězda = misidentification for North America (Fryday 2008)  
*kochiana* (Hepp) V. Wirth & Vězda = misidentification for North America (Fryday 2008)  
*lightfootii* (Sm.) Coppins & P. James (Aptroot 1996) = misidentification for North America (Tønsberg 2002, Fryday 2008)  
*placidensis* (H. Magn.) R. C. Harris = *Lecanora placidensis*  
*subfilamentosa* (Zahlbr.) Brako = *Lecidea subfilamentosa* (Fryday 2008)  
*subreagens* (H. Magn.) Oberholl. & V. Wirth = *Fuscidea scrupulosa* (Fryday 2008)

#### **FUSCOPANNARIA** P. M. Jørg.

**ahlneri** (P. M. Jørg.) P. M. Jørg. Syn.: *Pannaria ahlneri*  
**alaskana** P. M. Jørg. & Tønsberg (Jørgensen 2000c)  
**aurita** P. M. Jørg. (Jørgensen 2000c)  
**cheiroloba** (Müll. Arg.) P. M. Jørg. (Jørgensen 2000c) Syn.: *Parmeliella cheiroloba*  
**confusa** (P. M. Jørg.) P. M. Jørg. (Jørgensen 2000c)  
**convexa** P. M. Jørg. (Jørgensen 2005)  
**coralloidea** P. M. Jørg. (Jørgensen 2000c)  
**crustacea** P. M. Jørg. (Jørgensen 2000c)  
**cyanolepra** (Tuck.) P. M. Jørg. (Jørgensen 2000b) Syn.: *Pannaria cyanolepra*, *Parmeliella cyanolepra*  
**incisa** (Müll. Arg.) P. M. Jørg. (Jørgensen 2000c)  
**laceratula** (Hue) P. M. Jørg. Syn.: *Pannaria laceratula*  
**leprosa** P. M. Jørg. & Tønsberg (Jørgensen 2000c)  
**leucosticta** (Tuck.) P. M. Jørg. Syn.: *Pannaria leucosticta*  
**leucostictoides** (Ohlsson) P. M. Jørg. Syn.: *Pannaria leucostictoides*  
**maritima** (P. M. Jørg.) P. M. Jørg. Synonym: *Pannaria maritima*  
**mediterranea** (Tav.) P. M. Jørg. Syn.: *Pannaria mediterranea*  
**pacifica** P. M. Jørg. (Jørgensen 2000c)  
**praetermissa** (Nyl.) P. M. Jørg. Syn.: *Pannaria praetermissa*, *Parmeliella praetermissa*, *P. lepidiota*  
**pulveracea** (P. M. Jørg. & Henssen) P. M. Jørg. Syn.: *Pannaria pulveracea*  
**ramulina** P. M. Jørg. & Tønsberg (Jørgensen 2000c)  
**sorediata** P. M. Jørg. (Jørgensen 2000b)  
**thiersii** P. M. Jørg. (Jørgensen 2000c)  
**viridescens** P. M. Jørg. & Zhurb. (Jørgensen & Zhurbenko 2002)  
*californica* (Tuck.) P. M. Jørg. (Jørgensen 2000c) = *Vahliella californica*  
*globigera* Fryday & P. M. Jørg. (Fryday 2004a) = *Vahliella globigera*  
*hookerioides* P. M. Jørg. (Jørgensen 2000c) = *Vahliella hookerioides*  
*labrata* P. M. Jørg. (Jørgensen 2005) = *Vahliella labrata*  
*leucophaea* (Vahl) P. M. Jørg. = *Vahliella leucophaea*  
*saubinetii* (Mont.) P. M. Jørg. = *Vahliella saubinetii*

#### **GABURA** Adanson

**fasciculare** (L.) P. M. Jørg. (Jørgensen 2014) Syn.: *Collema fasciculare*, *Synechoblastus aggregatus*, *S. fascicularis*

#### **GAMUNDIA** Raithelh.

\***leucophylla** (Gillet) H. E. Bigelow Syn.: *Fayodia leucophylla* (Bigelow 1983)

\***striatula** (Kühner) Raitelh. Syn.: *Fayodia striatula* (Raitelhuber 1983)

GASPARRINIA Tornab. = CALOPLACA

**GASSICURTIA** Fée

**catasema** (Tuck.) Marbach Syn.: *Buellia catasema*, *B. caloosensis* (Marbach 2000)

**coccinea** Fée Syn.: *Buellia coccinea* (Marbach 2000)

**subpulcella** (Vainio) Marbach Syn.: *Buellia subpulcella*, *B. pachnidisca* (Marbach 2000)

*elizae* (Tuck.) Marbach (Marbach 2000) = *Buellia elizae* (Lendemer et al. 2013)

*vernica* (Tuck.) Marbach = *Buellia vernica* (Lendemer et al. 2013)

**GEISLERIA** Nitschke (Aptroot et al. 2014)

**sychnogonioides** Nitschke Syn.: *Strigula sychnogonioides*

**GELATINOPSIS** Rambold & Triebel

#**geoglossi** (Ellis & Everh.) Rambold & Triebel (Diederich et al. 2010)

\***acarosporicola** Kocourk. & K. Knudsen (Kocourková & Knudsen 2009a) = *Llimoniella acarosporicola*

**GELTINGIA** Alstrup & D. Hawksw.

\***associata** (Th. Fr.) Alstrup & D. Hawksw. Syn.: *Lecidea associata*

**GLAUCOMARIA** M. Choisy

*rupicola* (L.) M. Choisy = *Lecanora rupicola*

*sordida* (Pers.) Th. Fr. = *Lecanora rupicola*

**GLAUCOTREMA** Rivas Plata & Lumbsch (Rivas Plata et al. 2012)

**glaucophaenum** (Kremp.) Rivas Plata & Lumbsch Syns.: *Myriotrema glaucophaenum*, *Ocellularia glaucophaena* Presence in N.A. is doubtful

**GLOBOSPHAERIA** D. Hawksw.

\***jamesii** D. Hawksw. (Diederich 2003)

**GLOEOHEPPIA** Gyelnik

**polyspora** Henssen (Schultz 2002c)

**rugosa** Henssen (Knudsen et al. 2017)

**squamulosa** (Zahlbr.) M. Schultz Syn. : *Psorotichia squamulosa* (Schultz 2007b)

**GLYPHIS** Ach.

**atrofusca** (Müll. Arg.) Lücking (Lücking et al. 2011b)

**cicatricosa** Ach.

**scyphulifera** (Ach.) Staiger Syn.: *Gyrostomum scyphuliferum* (Staiger 2002, Lücking et al. 2011b)

**substriatula** (Nyl.) Staiger Syn.: *Graphina substriatula* (Staiger 2002, Tripp et al. 2010)

*achariana* Tuck. = *G. cicatricosa*

*confluens* Zenker = *G. cicatricosa*

*favulosa* Ach. = *G. cicatricosa*

**GLYPHOLECIA** Nyl.

**scabra** (Pers.) Müll. Arg. Syns.: *Acarospora rhagadiosa*, *A. scabra*, *A. saxicola*

**GOMPHILLUS** Nyl.

**americanus** Essl.

**calycioides** (Duby) Nyl. (Buck 1998)

**GONGYLIA** Körber



muscorum Zschacke (North American only) = Protothelenella pluriseptata (Fryday 2004b)  
nadvornikii Servit = Segestria mammillosa, but a misidentification for North America (Fryday 2004b)

**GONOHYMENIA** J. Steiner = LICHINELLA

cribellifera (Nyl.) Henssen = Lichinella cribellifera  
melamphylla (Tuck.) Henssen = Lichinella melamphylla  
minnesotensis (Fink) Henssen = Lichinella minnesotensis  
nigritella (Lettau) Henssen = Lichinella nigritella

**GOWARDIA** P. Halonen, L. Myllys, S. Velmala, & H. Hyvärinen (Halonen et al. 2009, Myllys et al. 2014)

**arctica** P. Halonen, L. Myllys, S. Velmala, & H. Hyvärinen Syn.: Alectoria gowardii  
**nigricans** (Ach.) P. Halonen, L. Myllys, S. Velmala, & H. Hyvärinen Syn.: Alectoria nigricans

**GRANULOPYRENIS** Aptroot

**hymnothora** (Ach.) Aptroot Syn.: Verrucaria hymnothora, Microthelia hymnothora, Sphaeria bignoniae

**GRAPHINA** Müll. Arg. = GRAPHIS (Lücking et al. 2007; Tripp et al. 2010)

abaphoides (Nyl.) Müll. Arg. = Acanthothecis leucopepla  
acharii (Fée) Müll. Arg. = Graphis acharii  
acrophaea Müll. Arg. = Graphis parilis  
adscribens (Nyl.) Müll. Arg. = Fissurina scolecitis for North American records  
anguina (Mont.) Müll. Arg. = Thalloloma anguinum  
antillarum (Vainio) Zahlbr. = Graphis antillarum  
babingtonii (Mont.) Zahlbr. = Fissurina insculpta  
colliculosa (Mont.) Hale = Platythecium colliculosum  
columbina (Tuck.) M. Wirth & Hale = Fissurina columbina  
cypressi Müll. Arg. = Fissurina cypressi  
dimidiata (Vainio) Zahlbr. = misidentification for North America  
dumastioides (Fink) ined. = Fissurina dumastioides  
floridana (Tuck.) R. C. Harris = Platythecium floridanum  
glaucoderma (Nyl.) Müll. Arg. = Fissurina incrustans  
incrustans (Fée) Müll. Arg. = Fissurina incrustans  
intertexta (Müll. Arg.) R. C. Harris = Acanthothecis aurantiaca  
leprocarpa (Nyl.) Zahlbr. = Chapsa leprocarpa  
marcescens (Fée) Müll. Arg. = Carbacanthographis marcescens  
mendax (Nyl.) Müll. Arg. = misidentification for North America  
nitidescens (Nyl.) Riddle = Fissurina nitidescens  
leuconephela (Nyl.) Zahlbr. = Fissurina leuconephela  
parilis (Kremp.) Müll. Arg. = Graphis parilis  
peplophora M. Wirth & Hale = Acanthothecis peplophora  
platycarpa (Eschw.) Zahlbr. = misidentification for North America  
platyleuca (Nyl.) Zahlbr. (Harris 1995a) = Diorygma pruinosum  
plittii Zahlbr. = Carbacanthographis marcescens  
scolecitis (Tuck.) Fink = Fissurina scolecitis  
sophisticascens (Nyl.) Zahlbr. = Graphis sophisticascens  
subnitida (Nyl.) Zahlbr. = Fissurina subnitida  
subnitidula (Nyl.) Zahlbr. = Fissurina subnitidula  
substriatula (Nyl.) Zahlbr. = Glyphis substriatula  
subvirginalis (Nyl.) Müll. Arg. = Acanthothecis mosquitensis  
virginalis (Nyl.) Müll. Arg. = Fissurina columbina  
virginea (Eschw.) Müll. Arg. = Diorygma poitaei  
xylophaga R. C. Harris = Graphis xylophage

**GRAPHIS** Adanson

**acharii** Fée Syn. *Graphina acharii* Presence in N. Am. uncertain (Tripp et al. 2010)  
**analoga** Nyl. (Seavey & Seavey 2011)  
**anfractuosa** Eschw.  
**antillarum** Vainio Syn.: *Graphina antillarum*  
**aperiens** Müll. Arg.  
**appendiculata** Common & Lücking (Lücking et al. 2011b)  
**argentata** Lücking & Umaña (Lücking et al. 2011b)  
**assimilis** Nyl. (Lücking et al. 2011b)  
**botryosa** Tuck.  
**brittoniae** F. Seavey & J. Seavey (Seavey & Seavey 2011)  
**bungartzii** Barcenas-Peña, Lücking, Herrera-Campos & R. Miranda (Seavey et al. 2017)  
**caesiella** Vainio  
**caesiocarpa** Redinger (Lücking et al. 2011b)  
**caribica** Lücking (Lücking et al. 2011b)  
**chlorotica** A. Massal. (Seavey & Seavey 2011)  
**chromothecia** R. C. Harris  
**cincta** (Pers.) Aptroot (Seavey & Seavey 2011)  
**conferta** Zenker (Lücking et al. 2011b)  
**crebra** Vainio (Seavey & Seavey 2011)  
**cupei** Vainio ex Lücking (Lücking et al. 2011b)  
**dendrogramma** Nyl. (Seavey & Seavey 2011)  
**desquamescens** (Fée) Zahlbr.  
**disserpens** Nyl. (Lücking et al. 2011b)  
**elegans** (Borrer ex Sm.) Ach.  
**elevata** F. Seavey & J. Seavey (Seavey & Seavey 2011)  
**elongata** Zenker (Seavey et al. 2017)  
**endoxantha** Nyl. (Lücking 2009)  
**eulectra** Tuck. Syn.: *Phaeographis eulectra*  
**ferrugineodisca** F. Seavey & J. Seavey (Seavey et al. 2017)  
**filiformis** Adaw. & Makhija (Seavey & Seavey 2011)  
**furcata** Fée (Seavey & Seavey 2011)  
**glauescens** Fée  
**haleana** R. C. Harris  
**handelii** Zahlbr. (Lücking et al. 2011b)  
**hinnulea** F. Seavey & J. Seavey (Seavey & Seavey 2011)  
**hodgesiana** Lendemer (Lendemer 2010b)  
**hyphosa** Staiger (Lendemer 2010b)  
**intermedians** Vainio (Lendemer 2010b)  
**intricata** Fée  
**inversa** R. C. Harris  
**koltermanniae** F. Seavey & J. Seavey (Seavey et al. 2017)  
**leptocarpa** Fée  
**leptoclada** Müll. Arg.  
**librata** C. Knight  
**lineola** Ach.  
**longula** Kremp. (Lücking et al. 2011b)  
**lucifica** R. C. Harris  
**lumbricina** Vainio  
**modesta** Zahlbr. (Seavey & Seavey 2011)  
**neolongata** Lücking (Seavey & Seavey 2011)  
**oshioi** M. Nakan. (Lücking et al. 2011b)  
**oxyclada** Müll. Arg. (Lücking et al. 2011b)  
**paralleloides** M. Cáceres & Lücking (Seavey et al. 2014)  
**parilis** Kremp. Syn.: *Graphina parilis* (Lücking et al. 2008)  
**pavoniana** Fée North American reports uncertain (Lendemer 2010b)  
**pergracilis** (Zahlbr.) Lücking & A. W. Archer (Lücking & McCune 2012)

**perstriatula** Nyl. (Seavey et al. 2017)  
**pinicola** Zahlbr. (Lendemer 2010b)  
**platycarpella** Müll. Arg.  
**proserpens** Vainio (Tucker 1981)  
**pseudocinerea** Lücking (Lücking et al. 2011b)  
**pseudoserpens** Chaves, Lücking & Umaña (Seavey et al. 2017)  
**pyrrhocheiloides** Zahlbr. (Seavey et al. 2014)  
**renschiana** (Müll. Arg.) Stizenb. (Seavey & Seavey 2011)  
**rimulosa** (Mont.) Trevisan  
**sauroidea** Leighton (Lücking et al. 2011b)  
**saxorum** Egea & Torrente (Egea & Torrente 1997)  
**schiffneri** Zahlbr. (Seavey et al. 2014)  
**scripta** (L.) Ach.  
**sophisticascens** (Nyl.) Zahlbr. (Harris & Ladd 2005; Tripp et al. 2010)  
**stellata** M. Cáceres & Lücking (Lücking et al. 2011b)  
**sterlingiana** E. Tripp & Lendemer (Lendemer et al. 2013)  
**striatula** (Ach.) Sprengel  
**subamylacea** Zahlbr.  
**subflexibilis** Lücking & Chaves (Lücking et al. 2011b)  
**supracola** A. W. Archer (Seavey & Seavey 2011)  
**tamiamiensis** Lendemer (Lendemer 2010b)  
**tenella** Ach.  
**xanthospora** Müll. Arg. (Lücking et al. 2011b)  
**xylophaga** (R. C. Harris) Lendemer Syn.: Graphina xylophaga (Lendemer & Knudsen 2008b)  
 afzelii Ach. = Dyplolabia afzelii  
 amicta Nyl. (1935) = Carbacanthographis amicta (Nyl.) Staiger & Kalb (Staiger 2002) Probable misidentification for North America (Esslinger & Tucker 2009)  
 anguilliformis Taylor (Fink 1935) Identity uncertain; probable misidentification for North America (Esslinger & Tucker 2009)  
 atrorubens Tuck. ex Fink = Dimidiographa longissima  
 balbisina Nyl. (Fink 1935) = G. implicata Fée Probable misidentification for North America (Esslinger & Tucker 2009)  
 beaumontii Tuck. = Fissurina insidiosa  
 candidata Nyl. = Carbacanthographis candidata  
 celtidis Müll. Arg. = G. librata  
 cinerea Fée (Fink 1935) Probable misidentification for North America (Esslinger & Tucker 2009)  
 dendritica (Ach.) Ach. (Mohr 1901) = Phaeographis dendritica  
 diversa Nyl. (Fink 1935) = Leiorreuma exaltata (Zahlbruckner 1924, Staiger 2002)  
 dumastii (Fée) Sprengel (Fink 1935) = Fissurina dumastii Fée Probable misidentification for North America (Esslinger & Tucker 2009)  
 dumastioides Fink = Fissurina dumastioides  
 floridana Tuck. = Platythecium floridanum  
 grammatis Fée = Platythecium grammatis  
 illiterata R. C. Harris = Fissurina illiterata  
 incrustans = Fissurina incrustans  
 insidiosa (C. Knight & Mitten) Hooker f. = Fissurina insidiosa  
 intertexta Müll. Arg. = Acanthothecis aurantiaca  
 inustula Stirton (Stirton 1875) = Thalloloma anguinum  
 lactea (Fée) Sprengel (Fink 1935) Identity uncertain (Esslinger & Tucker 2009)  
 leucopepla Tuck. = Acanthothecis leucopepla  
 marcescens = Carbacanthographis marcescens  
 mosquitensis Tuck. = Acanthothecis mosquitensis  
 nitida (Eschw.) Tuck. = Medusulina nitida  
 nitidescens Nyl. = Fissurina nitidescens  
 poitaeoides Nyl. = Acanthothecis poitaeoides  
 radiata (Mont.) Nyl. (Fink 1935) Identity uncertain (Esslinger & Tucker 2009)



rigidula Müll. Arg. (Lendemer & Yahr 2004) = *G. leptoclada* (Lücking 2009)  
 ramificans Nyl. (Fink 1935) Identity uncertain (Esslinger & Tucker 2009)  
 rufula Mont. = *Fissurina rufula*  
 scalpturata Ach. (Mohr 1901) = *Phaeographis scalpturata*  
 scolecitis Tuck. = *Fissurina scolecitis*  
 scripta var. varia Ach. (Fink 1935) = *G. scripta*  
 subdiversa Nyl. (Fink 1935) a nomen nudum; identity uncertain  
 subelegans Nyl. = *G. endoxantha* (Lücking 2009)  
 subnitidula Nyl. = *Fissurina subnitidula*  
 subparilis Nyl. = *Fissurina rufula*  
 turbulenta Nyl. = *Anomomorpha turbulenta*

#### **GRAPHIUM** Corda

\***aphthosae** Alstrup & D. Hawksw. (Esslinger & Egan 1995)

#### **GYALECTA** Ach.

**erythrozona** Lettau  
**carneola** (Ach.) Hellbom Syns. *Pachyphiale carneola* (Baloch et al. 2013a)  
**fagicola** (Hepp ex Arnold) Kremp. Syns.: *Pachyphiale fagicola* (Baloch et al. 2013a)  
**flotowii** Körber  
**foveolaris** (Ach.) Schaerer  
**friesii** Flotow ex Körber  
**geoica** (Wahlenb. ex Ach.) Ach. Syn.: *Secoliga geoica*  
**gyalizella** (Nyl.) Baloch & Lücking Syn.: *Pachyphiale gyalizella* (Baloch et al. 2013a)  
**herrei** Vězda  
 \***hypoleuca** (Ach.) Zahlbr. (McMullin et al. 2017)  
**jenensis** (Batsch) Zahlbr.  
**kukriensis** (Räsänen) Räsänen  
**obesipora** R. C. Harris & Lendemer (Lendemer et al. 2013a)  
**peziza** (Mont.) Anzi  
**russula** (Körber ex Nyl.) Baloch, Lumbsch & Wedin Syns.: *Belonia fennica*, *B. russula* (Baloch et al. 2013a)  
**truncigena** (Ach.) Hepp  
*carneolutea* (Turner) H. Olivier = *Cryptolechia carneolutea*  
*cupularis* (Hedwig) Schaerer = *G. jenensis*  
*farlowii* Tuck. ex Nyl. = *Petractis farlowii*  
*lamprospora* Nyl. = *Bactrospora lamprospora*  
*lutea* (Dickson) Tuck. = *Coenogonium luteum*  
*odora* Ach. (Fink 1935) = *Ionaspis odora*  
*radiatilis* Tuck. = *Skyttea radiatilis*

#### **GYALECTARIA** Schmitt, Kalb & Lumbsch (Schmitt et al. 2010)

**diluta** (Björk, G. Thor & T. B. Wheeler) Schmitt, T. Sprib. & Lumbsch (Schmitt et al. 2010)

#### **GYALECTIDIUM** Müll. Arg.

**appendiculatum** Lücking, Lendemer & E. Tripp (Lücking et al. 2007, Lendemer & Tripp 2008)  
**catenulatum** (Cavalc. & A. A. Silva) L. I. Ferraro, Lücking & Sérus. (Lücking et al. 2007)  
**filicinum** Müll. Arg.  
**floridense** Safranek & Lücking (Safranek & Lücking 2005)  
**imperfectum** Vězda (Ferraro, Lücking & Sérusiaux 2001)  
**paolae** Herrera-Campos & Lücking (Sanders & de los Ríos 2015)  
**tuckerae** Lücking & Lendemer (Lücking et al. 2007)  
**ulloae** Herrera-Campos & Lücking (Lücking et al. 2011b)  
**viride** Lücking, W. R. Buck & Rivas Plata (Lücking et al. 2007)  
**yahriae** W. R. Buck & Sérus. (Buck & Sérusiaux 2000)  
*rotuliforme* Müll. Arg. = *Asterothyrium rotuliforme*

GYALECTINA Vězda = CRYPTOLECHIA  
carneolutea (Turner) Vězda = Cryptolechia carneolutea

**GYALIDEA** Lettau ex Vězda

**asteriscus** (Anzi) Aptroot & Lücking (Aptroot & Lücking 2003) Syn.: Solorinella asteriscus  
**fritzei** (Stein) Vězda (Hutten et al. 2013)  
**hyalinescens** (Nyl.) Vězda  
**lecideopsis** (A. Massal.) Lettau ex Vězda  
**lecideopsis** var. **eucarpa** (Servít) Vězda  
**lecideopsis** var. **kurdistanica** (J. Steiner) Vězda  
**roseola** (Arnold) Lettau (Brodo 1995)  
dodgei Vězda = G. hyalinescens  
lecideopsis var. convarians (Nyl.) Vězda = G. lecideopsis var. eucarpa

**GYALIDEOPSIS** Vězda

**africana** Kalb & Vězda (Lücking et al. 2007)  
**americana** Lücking & W. R. Buck (Lücking et al. 2007)  
**bartramiorum** Lendemer (Lendemer 2017)  
**berenice** (Ellis & Everh.) Lücking & W. R. Buck  
**buckii** Lücking, Sérus. & Vězda (Lücking et al. 2007) Syn.: Tricharia vezdae  
**epicorticis** (A. Funk) Tønsberg & Vězda (Lücking et al. 2007) Syn.: Microlychnus epicorticis  
**floridae** Etayo & Diederich (Etayo & Diederich 2001)  
**helvetica** van den Boom & Vězda (Spribille & Björk 2008)  
**lambinonii** Vězda (Lücking et al. 2007)  
**macarthurii** Lücking, Umaña & Aptroot (Lücking et al. 2007)  
**mexicana** Tretiach, Giralt & Vězda (Lendemer 2011a, Lendemer & Tripp 2014)  
**moodyae** Lendemer & Lücking (Lendemer & Lücking 2004)  
**ozarkensis** Lücking, W. R. Buck & R. C. Harris (Lücking et al. 2007)  
**piceicola** (Nyl.) Vězda & Poelt  
**pusilla** Lücking & Tønsberg (Lücking & Tønsberg 2016)  
**sessile** W. B. Sanders & Lücking (Sanders & Lücking 2015)  
**subaequatoriana** Lücking & W. R. Buck (Lücking et al. 2007)  
**submonospora** Lücking & W. R. Buck (Lücking et al. 2007)  
**vainioi** Kalb & Vězda var. **semicirculata** Lücking & W. R. Buck (Lücking et al. 2007)  
**vainioi** Kalb & Vězda var. **vainioi**  
**wesselsii** Lücking, Sipman & Chaves (Lücking et al. 2007)  
alnicola W. Noble & Vězda = G. piceicola  
anastomosans P. James & Vězda = Jamesiella anastomosans  
athalloides (Nyl.) Vězda = Diploschistella athalloides  
musciicola P. James & Vězda (Tønsberg 1997) = misidentification of G. moodyae (Lücking et al. 2007)

**GYALOLECHIA** A. Massal. (Arup et al. 2013)

**bracteata** (Hoffm.) A. Massal. subsp. **bracteata** Syn.: Caloplaca bracteata, Fulgensia bracteata  
**bracteata** subsp. **bracteata** var. **alpina** (Th. Fr.) ined. Syn.: Fulgensia bracteata subsp. bracteata var. alpina  
**bracteata** subsp. **deformis** (Poelt) ined. Syn.: Fulgensia bracteata subsp. deformis  
**desertorum** (Tomin) Söchting, Frödén & Arup Syn.: Fulgensia desertorum  
**epiphyta** (Lyngé) Vondrák Syn.: Caloplaca arizonica, C. epiphyta (Vondrák et al. 2016)  
**flavorubescens** (Hudson) Söchting, Frödén & Arup Syn.: Caloplaca aurantiaca, C. flavorubescens  
**flavovirescens** (Wulfen) Söchting, Frödén & Arup Syn.: Caloplaca erythrella, C. flavovirescens  
**fulgens** (Sw.) Söchting, Frödén & Arup Syn.: Caloplaca fulgens, Fulgensia fulgens, Placodium fulgens  
**persimilis** (Wetmore) Söchting, Frödén & Arup Syn.: Caloplaca persimilis  
**stantonii** (W. A. Weber ex Arup) Söchting, Frödén & Arup Syn.: Caloplaca stantonii  
**stipitata** (Wetmore) Söchting, Frödén & Arup Syn.: Caloplaca stipitata  
**subbracteata** (Nyl.) Söchting, Frödén & Arup Syn.: Fulgensia subbracteata



**xanthostigmoidea** (Räsänen) Söchting, Frödén & Arup Syns.: *C. discolor*, *C. xanthostigmoidea arizonica* (H. Magn.) Söchting, Frödén & Arup = *G. epiphyta* (Vondrák et al. 2016)

**GYMNODERMA** Nyl.

*lineare* (A. Evans) Yoshim. & Sharp = *Cetradonia linearis*

**GYPSOPLACA** Timdal

**macrophylla** (Zahlbr.) Timdal

**GYROGRAPHA** Ertz & Tehler (Ertz et al. 2015b)

**gyrocarpa** (Flotow) Ertz & Tehler Syn.: *Opegrapha gyrocarpa* (Ertz et al. 2015b)

**GYROPHORA** Ach. = **UMBILICARIA**

*angulata* (Tuck.) Herre = *Umbilicaria angulata*

*anthracina* (Wulfen) Körber = *Umbilicaria rigida*

*arctica* Ach. = *Umbilicaria arctica*

*cylindrica* (L.) Ach. = *Umbilicaria cylindrica*

*decussata* (Vill.) Zahlbr. = *Umbilicaria decussata*

*deusta* (L.) Ach. = *Umbilicaria deusta*

*dillenii* (Tuck.) Müll. Arg. = *Umbilicaria mammulata*

*erosa* (G. Weber) Ach. = *Umbilicaria torrefacta*

*flocculosa* (Wulfen) Turner & Borrer = *Umbilicaria deusta*

*grisea* Swartz (Fink 1935) = *Umbilicaria grisea* Hoffm. = misidentification for North America (Esslinger & Tucker 2009)

*hyperborea* Ach. = *Umbilicaria hyperborea* var. *hyperborea*

*muhlenbergii* Ach. = *Umbilicaria muhlenbergii*

*phaea* (Tuck.) Nyl. = *Umbilicaria phaea*

*polyphylla* (L.) Funck = *Umbilicaria polyphylla*

*polyrrhiza* (L.) Körber = *Umbilicaria polyrrhiza*

*proboscidea* (L.) Ach. (Fink 1935) = *Umbilicaria proboscidea*

*rugifera* (Nyl.) Th. Fr. (Fink 1935) = *Umbilicaria virginis* (Llano 1950)

*torrefacta* (Lightf.) Cromb. (Fink 1935) = *Umbilicaria torrefacta*

*vellea* (L.) Ach. = *Umbilicaria vellea*

**GYROSTOMUM** Fr.

*curtisii* Tuck. (Fink 1935) = *Baculifera curtisii*

*scyphuliferum* (Ach.) Nyl. = *Glyphis scyphuliferum*

**HAEMATOMMA** A. Massal.

**accolens** (Stirton) Hillm. (Staiger & Kalb 1995)

**americanum** Kalb & Staiger (Staiger & Kalb 1995)

**fenzlianum** A. Massal. (Staiger & Kalb 1995)

**flexuosum** Hillm. (Staiger & Kalb 1995)

**guyanense** Kalb & Staiger (Brodo et al. 2008)

**leprarioides** (Vainio) Vainio (Brodo et al. 2008)

**ochroleucum** (Necker) J. R. Laundon var. **ochroleucum**

**ochroleucum** (Necker) J. R. Laundon var. **porphyrium** (Pers.) J. R. Laundon Syn.: *H. porphyrium*

**persoonii** (Fée) A. Massal. (Staiger & Kalb 1995)

**rufidulum** (Fée) A. Massal. (Staiger & Kalb 1995)

*caesium* Coppins & P. James = *Mycoblastus caesius*

*californicum* Sigal & D. Toren = *Ophioparma rubricosa* (Ekman 1996)

*cismonicum* Beltr. = *Loxospora cismonica*

*coccineum* (Dickson) Körber = misidentification for North America

*elatinum* (Ach.) A. Massal. = *Loxospora elatina*

*lapponicum* Räsänen = *Ophioparma lapponica*

*ochrophaeum* (Tuck.) A. Massal. = *Loxospora ochrophaea*



pacificum Hasse = Ophioparma rubricosa (Staiger & Kalb 1995, Ekman 1996)  
porphyrium (Pers.) Zopf = H. ochroleucum var. porphyrium  
puniceum (Sw.) A. Massal. North American records are H. persoonii  
pustulatum Brodo & W. L. Culb. = [Lepra pustulata](#)  
rappii Zahlbr. = Schismatomma rappii  
subpuniceum (Fée) B. de Lesd. = H. fenzlianum  
ventosum (L.) A. Massal. = Ophioparma ventosa

**HAFELLIA** Kalb, H. Mayrhofer & Scheid. = Buellia (Nordin & Tibell 2005)  
arnoldii (Servít) Hafellner & Türk = Buellia arnoldii  
bahiana (Malme) Sheard = Buellia bahiana  
bahiana var. pleiotropa (Malme) Sheard = Buellia bahiana var. pleiotropa  
callispora (C. Knight) H. Mayrhofer & Sheard = Buellia callispora  
curatellae (Malme) Marbach (Marbach 2000) = Buellia curatellae  
disciformis (Fr.) Marbach & H. Mayrhofer = Buellia disciformis  
fosteri Imshaug & Sheard = a species of Buellia  
parastata (Nyl.) Kalb = Buellia parastata  
pleiotera (Malme) Marbach (Hansen et al. 2008) = Buellia pleiotera

**HAFELLNERA** Houmeau & Cl. Roux  
parasemella (Nyl.) Houmeau & Cl. Roux = Schaereria parasemella

**HALECANIA** M. Mayrhofer  
**alpivaga** (Th. Fr.) M. Mayrhofer Syn.: Lecania alpivaga, L. disceptans, L. thallophila, Lecanora disceptans  
**australis** Lumbsch (van den Boom & Ryan 2004a)  
**pepegospora** (H. Magn.) van den Boom (van den Boom & Elix 2005) Syn.: Lecania pepegospora  
**viridescens** Coppins & P. James

**HALEGRAPHA** Rivas Plata & Lücking (Lücking et al. 2011a, 2011b)  
**floridana** Common & Lücking

**HALOSPORA** (Zschacke) Tomas. & Cif.  
**\*discrepans** (J. Lahm ex Arnold) Hafellner (Dillman et al. 2012)

**HARPIDIUM** Körber  
**nashii** Scheid. (Schultz et al. 2000)  
glaucophanum (Hasse) Hasse = Rhizoplaca glaucophana

**HASSEA** Zahlbr.  
**\*bacillosa** (Nyl.) Zahlbr. = Sarcopyrenia bacillosa

**HAZSLINSZKYA** Körber (Ertz & Diederich 2015)  
gibberulosa (Ach.) Körber Misidentifications for North America (Perlmutter et al. 2015)

**HAWKSWORTHIANA** U. Braun  
**\*peltigericola** (D. Hawks.) U. Braun

**HEIOMASIA** Nelsen, Lücking & Rivas Plata (Nelsen & Lücking 2010 [2011])  
**seaveyorum** Nelsen & Lücking

**HELMINTHOCARPON** Fée  
**leprevostii** Fée

**HELOCARPON** Th. Fr.

**crassipes** Th. Fr. Syns.: *Lecidea crassipes*, *Micarea crassipes*  
**lesdainii** (Zahlbr.) Breuss (Breuss 2001)  
*corticola* Breuss (Etayo 1998) = *H. lesdainii*

#### **HENRICA** B. de Lesd.

**americana** Breuss (Breuss 2002c)  
**melaspora** (Taylor) Savić & Tibell Syn.: *Polyblastia melaspora* (Savić & Tibell 2008)  
**theleodes** (Sommerf.) Savić, Tibell & Nav.-Ros. Syn.: *Polyblastia theleodes* (Savić & Tibell 2008)

#### **HEPPIA** Nägeli

**adglutinata** (Kremp.) A. Massal.  
**conchiloba** Zahlbr.  
**despreauxii** (Mont.) Tuck. (Büdel et al. 2002) Syns.: *Anema dodgei*, *Solorinaria despreauxii* (Schultz 2007b)  
**lutosa** (Ach.) Nyl.  
*alumenensis* Herre Excluded from North American flora; type not found.  
*bolanderi* (Tuck.) Vainio = *Peltula bolanderi*  
*deserticola* Zahlbr. = *Peltula obscurans* var. *deserticola*  
*euploca* (Ach.) Vainio = *Peltula euploca*  
*guepinii* (Delise) Nyl. = *Peltula euploca*  
*hassei* Zahlbr. = *Peltula obscurans* var. *hassei*  
*leptopholis* Nyl. ex Hasse = *Peltula patellata*  
*macrospora* B. de Lesd. = *H. conchiloba*  
*placodizans* Zahlbr. = *Peltula placodizans*.  
*planescens* Nyl. Excluded from North American flora; type not found.  
*polyphylla* B. de Lesd. = *Peltula euploca*  
*polyspora* Tuck. = *Peltula patellata*  
*psammophila* Nyl. = misidentification for North America  
*richardsii* Herre = *Peltula richardsii*  
*terrena* Nyl. ex Hasse = *Peltula patellata*  
*tortuosa* (Nees) Vainio = *Peltula tortuosa*  
*virescens* (Despr.) Nyl. = *H. lutosa*  
*zahlbruckneri* Hasse = *Peltula zahlbruckneri*

#### **HERPOTHALLON** Tobler (Aptroot et al. 2009)

**echinatum** Aptroot, Lücking & Will-Wolf (Lücking et al. 2011b)  
**hyposticticum** F. Seavey & J. Seavey (Seavey & Seavey 2014a)  
**rubrocinctum** (Ehrenb.: Fr.) Aptroot, Lücking & G. Thor Syns. *Cryptothecia rubrocincta*, *C. sanguineum*  
**rubroechinatum** Frisch & G. Thor (Frisch et al. 2010)  
*antillarum* (Vainio) Aptroot, Lücking & G. Thor (Lücking et al. 2011b) = *Diorygma antillarum*

#### **HERTELIANA** P. James

**alaskensis** (Nyl.) S. Ekman Syns.: *Bacidia alaskensis*, *Lecidea alaskensis* (Ekman 1996)  
**schuyleriana** Lendemer (Lendemer 2016c)

#### **HERTELIDEA** Printzen & Kantvilas (Printzen & Kantvilas 2004)

**botryosa** (Fr.) Printzen & Kantvilas Syns.: *Biatora botryosa*, *Lecidea botryosa* (Printzen & Kantvilas 2004)  
**pseudobotryosa** R. C. Harris, Ladd & Printzen (Printzen & Kantvilas 2004)

#### **HETEROCARPON** Müll. Arg.

**\*ochroleucum** (Tuck.) Müll. Arg. Syn.: *Endocarpon ochroleucum*

#### **HETEROCEPHALACRIA** Berthier

[bachmannii](#) (Diederich & M. S. Christ.) Millanes & Wedin (McMullin et al. 2017, Zhurbenko & Pino-Bodas 2017)

## **HETEROCYPHELIUM** Vainio

**leucampyx** (Tuck.) Vainio

## **HETERODERMIA** Trevisan

**albicans** (Pers.) Swinscow & Krog Syns.: *Anaptychia domingensis*, *A. ravenelii*  
**appalachensis** (Kurok.) W. L. Culb. Syn.: *Anaptychia appalachensis*  
**boryi** (Fée) K. P. Singh & S. R. Singh Syns.: *Anaptychia boryi*, *A. neoleucomelaena*  
**casarettiana** (A. Massal.) Trevisan Syn.: *Anaptychia casarettiana*  
**chondroidea** W. A. Weber & D. D. Awasthi Syn.: *Anaptychia chondroidea*  
**comosa** (Eschw.) Follm. & Redón (Harris 1995b) Syn.: *Physcia comosa*  
**crocea** R. C. Harris North American reports of *H. corallophora* belong here  
**dendritica** (Pers.) Poelt Syn.: *Anaptychia dendritica*  
**diademata** (Taylor) D. D. Awasthi Syn.: *Anaptychia diademata*  
**echinata** (Taylor) W. L. Culb. Syn.: *Anaptychia echinata*  
**erecta** Lendemer (Lendemer 2009a)  
**erinacea** (Ach.) W. A. Weber Syn.: *Anaptychia erinacea*  
**galactophylla** (Tuck.) W. L. Culb. Syns.: *Anaptychia comosa* (for North American records), *A. galactophylla*  
**granulifera** (Ach.) W. L. Culb. Syn.: *Anaptychia granulifera*  
**hypoleuca** (Muhl.) Trevisan Syn.: *Anaptychia hypoleuca*  
**japonica** (M. Satô) Swinscow & Krog  
**leucomela** (L.) Poelt Syn.: *Anaptychia "leucomelaena"*  
**microphylla** (Kurok.) Skorepa Questionable for N. America (Lendemer 2009a)  
**namaquana** Brusse (Esslinger & Bratt 1998)  
**neglecta** Lendemer, R. C. Harris & E. Tripp (Lendemer et al. 2007)  
**obscurata** (Nyl.) Trevisan Syns.: *Anaptychia heterochroa*, *A. hypoleuca* var. *colorata*, *A. obscurata*, *A. soreddiifera*  
**palpebrata** (Taylor) Vainio (Moberg 2011)  
**podocarpa** (Bél.) Awasthi (Moberg & Nash 1999)  
**pseudospeciosa** (Kurok.) W. L. Culb. Syn.: *Anaptychia pseudospeciosa*  
**rugulosa** (Kurok.) Wetmore  
**sitchensis** Goward & W. Noble  
**speciosa** (Wulfen) Trevisan Syns.: *Anaptychia pseudospeciosa* var. *tremulans*, *A. speciosa*  
**squamulosa** (Degel.) W. L. Culb. Syn.: *Anaptychia squamulosa*  
**tropica** (Kurok.) Sipman Syn.: *Anaptychia tropica* (Marcano et al. 1996)  
*barbifera* (Nyl.) K. P. Singh = misidentification for N.A. (Lendemer 2009a)  
*corallophora* (Taylor) Skorepa = *H. crocea* for North American reports  
*domingensis* (Ach.) Trevisan = *H. albicans*  
*leucomelaena* (L.) Poelt = *H. leucomela*  
*neoleucomelaena* (Kurok.) Follmann & Redón = *H. boryi*  
*propagulifera* (Vainio) J. P. Dey = misidentification for North America, mostly *H. neglecta* (Lendemer et al. 2007)  
*tremulans* (Müll. Arg.) W. L. Culb. = *H. speciosa*

## **HETEROPLACIDIUM** Breuss (Breuss 1996)

#**compactum** (A. Massal.) Gueidan & Cl. Roux (Prieto et al. 2012) Syns.: *Catapyrenium compactum*, *Dermatocarpon compactum*, *Verrucaria compacta*  
**congestum** (Breuss & McCune) Breuss Syn.: *Catapyrenium congestum*  
#**transmutans** K. Knudsen, Breuss & Kocourk. (Knudsen et al. 2014a)  
**zamenhofianum** (Clauzade & Cl. Roux) Cl. Roux (Kocourková et al. 2012) Syn.: *Verrucaria zamenhofiana*  
*acarosporoides* (Zahlbr.) Breuss = *Placidium acarosporoides*  
*podolepis* (Breuss) Breuss = *Placidium podolepis*



#### HETEROTHECIUM Flotow

- conspersum (Fée) Flotow = *Piccolia conspersa*
- domingense (Pers.) Flotow = *Letrouitia domingense*
- leucoxanthum (Sprengel) A. Massal. = *Brigantiaea leucoxantha*
- nannarium Tuck. = *Piccolia nannaria*
- pachycheilum Tuck. = *Megalospora pachycheila*
- tuberculosum (Fée) Flotow = *Megalospora tuberculosa*

#### HOBSONIA Massee

- \**christiansenii* B. L. Brady & D. Hawksw. = *Illosporiosis christiansenii*

#### HOBSONIOPSIS D. Hawksw. (Sikaroodi et al. 2001)

- \**santessonii* (Lowen & D. Hawksw.) D. Hawksw. (Diederich 2003)

#### HOMOSTEGIA Fuckel

- \**dermatocarpi* Alstrup & M. S. Cole (Alstrup & Cole 1998)
- \**hertelii* D. Hawksw., V. Atienza & M. Cole (Hawksworth et al. 2004)
- \**piggotii* (Berk. & Broome) P. Karsten (Esslinger & Egan 1995)
- \**parmeliana* (Jacq.) Vouaux (Cole & Hawksworth 2001) Erroneous report based on *H. hertelii* (Hawksworth et al. 2004)

#### HUBBSIA W. A. Weber (Tehler et al. 1997)

- californica* (Räsänen) W. A. Weber Syn.: *Reinkella californica*
- lumbricoides* W. A. Weber = *Schizopelte lumbricoides* (Ertz & Tehler 2011), but not known north of Mexico
- parishii* (Hasse) Tehler, Loht., Myllys & Sundin = *Schizopelte parishii* (Ertz & Tehler 2011)

#### HUILIA Zahlbr. = PORPIDIA

- albocaerulescens* (Wulfen) Hertel = *Porpidia albocaerulescens*
- cinereoatra* (Ach.) Hertel = *Porpidia cinereoatra*
- crustulata* (Ach.) Hertel = *Porpidia crustulata*
- elegantior* (H. Magn.) Hertel = *Amygdalaria elegantior*
- flavocaerulescens* (Hornem.) Hertel = *Porpidia flavicunda*
- glaucophaea* (Körber) Hertel = *Porpidia rugosa*
- macrocarpa* (DC.) Hertel = *Porpidia macrocarpa*
- melinodes* (Körber) Hertel = *Porpidia melinodes*
- nigrocruenta* (Anzi) Hertel = *Porpidia macrocarpa*
- panaeola* (Ach.) Hertel = *Amygdalaria panaeola*
- platycarpoides* (Bagl.) Hertel = *Porpidia platycarpoides*
- soredizodes* (Lamy ex Nyl.) Hertel = *Porpidia soredizodes*
- superba* (Körber) Hertel = *Porpidia superba*
- tuberculosa* (Sm.) P. James = *Porpidia tuberculosa*

#### HYALopeziza Fuckel

- \**rapax* Huhtinen (Huhtinen et al. 2008)

#### HYDROPUNCTARIA Keller, Gueidan & Thüs (Gueidan et al. 2009)

- amphibia* (Clemente) Orange (Orange 2012) Syn.: *Verrucaria amphibia*
- maura* (Wahlenb.) C. Keller, Gueidan & Thüs Syn.: *Verrucaria maura*
- rheitrophila* (Zschacke) C. Keller, Gueidan & Thüs Syn.: *Verrucaria kernstockii*, *V. rheitrophila*
- scabra* (Vězda) C. Keller, Gueidan & Thüs (McCune et al. 2014b)

#### HYDROTHYRIA J. L. Russell = PELTIGERA

- venosa* J. L. Russell = *Peltigera hydrothyria*

### **HYMENELIA** Kremp.

- arctica** (Lynge) Lutzoni Syn.: *Ionaspis arctica*, *I. epulotica* var. *arctica*
- ceracea** (Arnold) M. Choisy
- cyanocarpa** (Anzi) Lutzoni (Miller et al. 2005)
- epulotica** (Ach.) Lutzoni Syns.: *Ionaspis epulotica*, *Lecanora epulotica*
- heteromorpha** (Kremp.) Lutzoni Syns.: *Ionaspis heteromorpha*, *I. annularis*, *I. ochracella*, *I. reducta*, *I. schismatopis*
- melanocarpa** (Kremp.) Arnold Syn.: *Ionaspis melanocarpa*
- rhodopis** (Sommerf.) Lutzoni Syns.: *Ionaspis ochromicra*, *I. rhodopis lacustris* (With.) M. Choisy = *Ionaspis lacustris*
- ochrolemma** (Vainio) Gowan & Ahti = *Porpidia ochrolemma*
- prevostii** (Duby) Kremp. = *H. epulotica*

### **HYPERPHYSCIA** Müll. Arg.

- adglutinata** (Flörke) H. Mayrhofer & Poelt Syns.: *Physcia adglutinata*, *P. elaeina*, *Physciopsis adglutinata*, *P. elaeina*
- confusa** Essl., C. A. Morse & S. Leavitt (Esslinger et al. 2012)
- minor** (Fée) D. D. Awasthi Syns.: *Physcia minor*, *Physciopsis minor*
- pyrithrocardia** (Müll. Arg.) Moberg & Aptroot (Esslinger et al. 2012)
- syncolla** (Tuck. ex Nyl.) Kalb Syns.: *Physcia syncolla*, *Physciopsis syncolla*

### **HYPOCENOMYCE** M. Choisy

- scalaris** (Ach. ex Lilj.) M. Choisy Syns.: *Lecidea scalaris*, *L. ostreata*, *Psora scalaris*, *P. ostreata anthracophila* (Nyl.) P. James & Gotth. Schneider (Timdal 2002a) = *Carbonicola anthracophila*
- castaneocinerea** (Räsänen) Timdal = *Carbonicola myrmecina*
- friesii** (Ach.) P. James & Gotth. Schneider = *Xylopsora friesii*
- leucococca** R. Sant. = *Toensbergia leucococca*
- oligospora** Timdal (Timdal 2001) = *Fulgidea oligospora*
- praestabilis** (Nyl.) Timdal = *Pycnora praestabilis*
- sierrae** Timdal (Timdal 2001) = *Fulgidea sierrae*
- sorophora** (Vainio) P. James & Poelt = *Pycnora sorophora*
- xanthococca** (Sommerf.) P. James & Gotth. Schneider = *Pycnora xanthococca*

### **HYPOGYMNIA** (Nyl.) Nyl.

- apinnata** Goward & McCune
- austerodes** (Nyl.) Räsänen Syn.: *Parmelia austerodes*
- beringiana** (Krog) McCune (McCune 2008)
- bitteri** (Lynge) Ahti Syn.: *Parmelia bitteri*
- canadensis** Goward & McCune (Goward & McCune 2007)
- castanea** McCune & Krog (McCune 2008)
- dichroma** Goward (Goward et al. 2012)
- duplicata** (Ach.) Rass. Syn.: *Parmelia elongata* (Spribille et al. 2010)
- enteromorpha** (Ach.) Nyl.
- farinacea** Zopf Uncertain for North America (Goward et al. 2012)
- fistulosa** McCune & Krog (McCune 2008)
- gracilis** McCune (McCune 2002)
- heterophylla** L. Pike
- hultenii** (Degel.) Krog Syn.: *Cavernularia hultenii* (Miądlikowska et al. 2011)
- imshaugii** Krog
- inactiva** (Krog) Ohlsson
- incurvoides** Rass. (McCune et al. 2006)
- krogiae** Ohlsson
- lophyrea** (Ach.) Krog Syns.: *Cavernularia lophyrea*, *Parmelia lophyrea* (Miądlikowska et al. 2011)
- lugubris** (Pers.) Krog
- minilobata** McCune & Schoch (McCune & Schoch 2009)
- mollis** L. Pike & Hale

**occidentalis** L. Pike  
**oceanica** Goward  
**physodes** (L.) Nyl. Syn.: *Parmelia duplicata* var. *douglasicola*, *P. physodes*, *P. oregana*  
**protea** Goward, T. Sprib. & Ahti (Goward et al. 2012)  
**pulverata** (Nyl. ex Crombie) Elix  
**recurva** Goward, Björk, & Hollinger (Goward et al. 2010)  
**rugosa** (G. Merr.) L. Pike  
**salsa** Goward (Goward et al. 2012)  
**schizidiata** McCune (McCune 2002)  
**subcapitata** (Nyl.) Rass.  
**subobscura** (Vainio) Poelt Syn.: *Parmelia subobscura*  
**subphysodes** (Kremp.) Filson (McCune & Rosentreter 1997)  
**tubulosa** (Schaerer) Hav. Syn.: *Parmelia tubulosa*  
**verruculosa** Goward (Goward et al. 2012)  
**vittata** (Ach.) Parrique Syn.: *Parmelia vittata*  
**wilfiana** Goward, T. Sprib. & Ahti (Goward et al. 2010)  
*amplexa* Goward, Björk & T. B. Wheeler (Lumbsch et al. 2011) = *H. imshaugii* (McCune et al. 2011)  
*atrofusca* (Schaerer) Räsänen = *Brodoa atrofusca*, but North American reports are misidentifications  
*bitteriana* (Zahlbr.) Räsänen = *H. farinacea*  
*elongata* (Hillm.) Rass. = *H. duplicata*  
*encausta* (Sm.) Walter Watson = *Brodoa intestiniformis* (but see below)  
*intestiniformis* (Vill.) Räsänen = *Brodoa intestiniformis*, but North American records are misidentifications of, e.g., *Brodoa oroarctica*  
*metaphysodes* (Asahina) Rass. = misidentification for North America (Goward et al. 2010)  
*oroarctica* Krog = *Brodoa oroarctica*  
*pseudophysodes* (Asahina) Rass. North American reports are *H. oceanica*

#### **HYPOTRACHYNA** (Vainio) Hale

**afrorevoluta** (Krog & Swinscow) Krog & Swinscow (Knudsen & Lendemer 2005b)  
**catawbiensis** (Degel.) Divakar, A. Crespo, Sipman, Elix & Lumbsch Syn.: *Cetrariastrum catawbiense*, *Everniastrum catawbiense*, *Parmelia sorocheila* var. *catawbiensis*  
**consimilis** (Vainio) Hale (Lendemer & Harris 2016)  
**costaricensis** (Nyl.) Hale  
**croceopustulata** (Kurok.) Hale Syn.: *Parmelia croceopustulata*  
**cryptochlora** (Vainio) D. Hawksw. & A. Crespo Syn.: *Parmelinopsis cryptochlora* (Divakar et al. 2013)  
**dactylifera** (Vainio) Hale (Nash et al. 1998)  
**densirhizinata** (Kurok.) Hale Syn.: *Parmelia densirhizinata*  
**dentella** (Hale & Kurok.) Hale Syn.: *Parmelia dentella*  
**ensifolia** (Kurok.) Hale Syn.: *Parmelia ensifolia*, *P. lobulifera* var. *insensitiva*  
**gondylophora** (Hale) Hale Syn.: *Parmelia gondylophora*  
**horrescens** (Taylor) Krog & Swinscow Syn.: *Parmelia horrescens*, *Parmelina horrescens*, *Parmelinopsis horrescens* (Divakar 2013)  
**imbricatula** (Zahlbr.) Hale Syn.: *Parmelia imbricatula*, *P. lobulifera*, *P. lobulifera* var. *luteoreagens*  
**laevigata** (Sm.) Hale Syn.: *Parmelia laevigata*  
**livida** (Taylor) Hale Syn.: *Parmelia livida*  
**lividescens** (Kurok.) Hale (Hodkinson 2010)  
**meridensis** Hale & López (Nash, et al. 2002)  
**minarum** (Vainio) Krog & Swinscow Syn.: *Parmelia dissecta*, *P. hubrichtii*, *Parmelina dissecta*, *P. minarum*, *Parmelinopsis minarum* (Divakar 2013)  
**oostingii** (J. P. Dey) Hale Syn.: *Parmelia oostingii*  
**osseoalba** (Vainio) Park & Hale Syn.: *Parmelia formosana*  
**polydactyla** (Krog & Swinscow) T. H. Nash  
**producta** Hale Syn.: *Parmelia producta*  
**prolongata** (Kurok.) Hale Syn.: *Parmelia prolongata*, *P. lobulifera* var. *sanguineoreagens*, *P. rachista*  
**pseudosinuosa** (Asahina) Hale



**pulvinata** (Fée) Hale Syn.: *Parmelia pulvinata*  
**punoensis** Kurok. & K. H. Moon (Nash et al. 2002)  
**pustulifera** (Hale) Skorepa Syn.: *Parmelia pustulifera*  
**revoluta** (Flörke) Hale Syn.: *Parmelia revoluta*  
**riparia** McCune (McCune 1998a)  
**rockii** (Zahlbr.) Hale Syn.: *Parmelia rockii*  
**showmanii** Hale  
**sinuosa** (Sm.) Hale Syn.: *Parmelia sinuosa*  
**spumosa** (Asahina) Krog & Swinscow Syns.: *Parmelia spumosa*, *Parmelina spumosa*, *Parmelinopsis spumosa* (Divakar et al. 2013)  
**subsaxatilis** (B. de Lesd.) Hale  
**swinscowii** (Hale) Krog & Swinscow Syns.: *Parmelia swinscowii*, *Parmelina swinscowii*, *Parmelinopsis swinscowii* (Divakar et al. 2013)  
**taylorensis** (M. E. Mitch.) Hale (Groner & Dietrich 1996)  
**thysanota** (Kurok.) Hale Syn.: *Parmelia thysanota*  
**virginica** (Hale) Hale Syn.: *Parmelia virginica*  
*formosana* (Zahlbr.) Hale = *H. osseoalba*  
*rachista* (Hale) Hale = *H. prolongata*  
*sorocheila* (Vainio) Divakar, A. Crespo, Sipman, Elix & Lumbsch Reports apparently based on *H. catawbiensis* (Egan 1987)

#### **ICMADOPHILA** Trevisan

**ericetorum** (L.) Zahlbr. Syn.: *Baeomyces aeruginosa*

#### **ILLOSPORIOPSIS** D. Hawksw.

\***christiansenii** (B. L. Brady & D. Hawksw.) D. Hawks. (Sikaroodi et al. 2001)

#### **ILLOSPORIUM** Martius

\***carneum** Fr.

\***corallinum** Roberge = *Marchandiomyces corallinus*

#### **IMMERSARIA** Rambold & Pietschm.

**athroocarpa** (Ach.) Rambold & Pietschm.

**carbonoidea** (J. W. Thomson) Esnault & Cl. Roux Syn.: *Lecidea carbonoidea*

#### **IMSHAUGIA** S. F. Meyer

**aleurites** (Ach.) S. F. Meyer Syn.: *Parmeliopsis aleurites*

**placorodia** (Ach.) S. F. Meyer Syn.: *Parmeliopsis placorodia*

#### **INGVARIELLA** Guderley & Lumbsch

**bispora** (Bagl.) Guderley & Lumbsch (Lumbsch 2004)

#### **INODERMA** (Ach.) Gray

**byssaceum** (Weigel) Gray Syn.: *Arthonia byssacea* (Frisch et al. 2015)

#### **INTRALICHEN** D. Hawksw. & M. S. Cole

\***baccisporus** Hawksworth & M. S. Cole (Hawksworth & Cole 2002)

\***christiansenii** (D. Hawksw.) D. Hawksw. & M. S. Cole Syn.: *Bispora christiansenii* (Hawksworth & Cole 2002)

\***lichenicola** (M. S. Christ. & D. Hawksw.) D. Hawksw. & M. S. Cole (Kocourková et al. 2012)

\***lichenum** (Diederich) D. Hawksw. & M. S. Cole (Hawksworth & Cole 2002) Syn.: *Bispora lichenum*

#### **INVOLUCROPYRENIUM** Breuss (Breuss 1996)

**waltheri** (Kremp.) Breuss Syn.: *Catapyrenium waltheri*, *Dermatocarpon waltheri*

#### **IONASPIS** Th. Fr.

**alba** Lutzoni

**lacustris** (With.) Lutzoni Syns.: *Hymenelia lacustris*, *Aspicilia lacustris*, *Lecanora lacustris*, *L. deplanans*

**lavata** H. Magn. Syn.: *Lecanora lavata*

**obtecta** (Vainio) R. Sant. (McCune et al. 2014b)

**odora** (Ach.) Th. Fr. ex Stein Syns.: *Gyalecta odora*, *Lecanora odora*

**suaveolens** (Fr.) Th. Fr. ex Stein

*annularis* H. Magn. (Thomson 1997) = *Hymenelia heteromorpha*

*arctica* Lynge = *Hymenelia arctica*

*chrysophana* (Körber) Stein = *I. suaveolens*

*epulotica* (Ach.) Blomb. & Forssell = *Hymenelia epulotica*

*epulotica* var. *arctica* (Lynge) H. Magn. = *Hymenelia arctica*

*heteromorpha* (Kremp.) Arnold = *Hymenelia heteromorpha*

*melanocarpa* (Kremp.) Arnold = *Hymenelia melanocarpa*

*ochracella* (Nyl.) H. Magn. = *Hymenelia heteromorpha*

*ochromicra* (Nyl.) Hue = *Hymenelia rhodopis*

*reducta* H. Magn. = *Hymenelia heteromorpha*

*rhodopis* (Sommerf.) Blomb. & Forssell = *Hymenelia rhodopis*

*schismatopis* (Nyl.) Hue = *Hymenelia heteromorpha*

*spitsbergensis* H. Magn. = nom. invalidum

**JAMESIELLA** Lücking, Sérus. & Vězda

**anastomosans** (P. James & Vězda) Lücking, Sérus. & Vězda (Lücking et al. 2007) Syn.: *Gyalideopsis anastomosans*

**JAPEWIA** Tønsberg

**subaurifera** Muhr & Tønsberg

**tornoënsis** (Nyl.) Tønsberg Syns.: *Lecidea tornoënsis*, *Mycoblastus tornoënsis*

*carrollii* (Coppins & P. James) Tønsberg (Aptroot 1996) = misidentification for North America (Printzen 1999)

**JAPEWIELLA** Printzen

**dollypartoniana** J. L. Allen & Lendemer (Allen & Lendemer 2015)

**JARXIA** D. Hawksw. (Harris 1995a)

**ilicicola** R. C. Harris (Harris 1995a)

**thelenula** R. C. Harris (Harris 1995a)

**JULELLA** Fabre

<sup>+</sup>**asema** R. C. Harris (Harris 1995a)

<sup>+</sup>**dispora** (Müll. Arg.) R. C. Harris (Harris 1995a) Syn.: *Polyblastiopsis dispora*

<sup>+</sup>**fallaciosa** (Arnold) R. C. Harris (Harris 1995a) Syn.: *Polyblastiopsis fallaciosa*

<sup>+</sup>**geminella** (Nyl.) R. C. Harris (Harris 1995a) Syn.: *Polyblastiopsis rappii*

<sup>+</sup>**lactea** (A. Massal.) M. E. Barr (Harris 1995a) Syn.: *Polyblastiopsis lactea*

<sup>+</sup>**sericea** (A. Massal.) Coppins (Aptroot 2002b)

<sup>+</sup>**sublactea** (Nyl.) R. C. Harris (Harris 1995a) Syn.: *Clathroporina exiguella*, *C. amygdalina*, *Polyblastiopsis sublactaea*

<sup>+</sup>**taxodii** R. C. Harris (Harris 1995a)

<sup>+</sup>**variiformis** R. C. Harris (Harris 1995a)

<sup>+</sup>**vitrispora** (Cooke & Harkness) M. E. Barr (Harris 1995a)

**KAERNEFELTIA** A. Thell & Goward (Thell & Goward 1996)

**californica** (Tuck.) A. Thell & Goward (Thell & Goward 1996) Syns.: *Alectoria californica*, *A. cetrariza*, *Cetraria californica*, *Cornicularia californica*, *Tuckermannopsis californica*

**merrillii** (Du Rietz) A. Thell & Goward (Thell & Goward 1996) Syns.: *Cetraria merrillii*, *Tuckermannopsis merrillii*

**KALCHBRENNERIELLA** Diederich & M. S. Christ.

\***cyanescens** (Kalchbr.) Diederich & M. S. Christ. (Diederich 2002)

**KARSCHIA** Körber

\***talcophila** (Ach.) Körber (Hafellner et al. 2002)

\***athallina** (Müll. Arg.) Vouaux = *Dactylospora athallina*

\***inops** Triebel & Rambold = *Buelliella inops*

**KARSTENIOMYCES** D. Hawksw.

\***peltigerae** (P. Karsten) D. Hawksw. (Alstrup & Cole 1998)

**KEPHARTIA** R. C. Harris & Lendemer (Lendemer et al. 2013)

**crystalligera** R. C. Harris & Lendemer

**spinadiaboli** R. C. Harris & Lendemer

**KILIASIA** Hafellner = **TONINIA**

**athallina** (Hepp) Hafellner = *Toninia athallina*

**philippea** (Mont.) Hafellner = *Toninia philippea*

**tristis** (Müll. Arg.) Hafellner = *Toninia subnitida*

**KIRSCHSTEINIOTHELIA** D. Hawksw. Omitted as a totally saprophytic genus

**KNUFIA** L. J. Hutchinson & Unter.

\***peltigerae** (Fuckel) Réblová & Unter. Syn.: *Capronia peltigerae* (Réblová et al. 2013)

**KOERBERIA** A. Massal.

**biformis** A. Massal.

**sonomensis** (Tuck.) Henssen = [Tingiopsidium sonomense](#) (Hafellner & Spribille 2016)

**KOERBERIELLA** Stein

**wimmeriana** (Körber) Stein

**KOHLMEYERA** Schatz

**complicatula** (Nyl.) Schatz = *Mastodia tessellata* (Kohlmeyer et al. 2004)

**LABROCARPON** Etayo & Pérez-Ortega

\***canariense** (D. Hawksw.) Etayo & Pérez-Ortega (Seavey & Seavey 2014a)

**LAEVIOMYCES** D. Hawksw. = **LICHENODIPLIS**

\***lecanoricola** M. S. Cole & D. Hawksw. (Cole & Hawksworth 2001) = *Lichenodiplis lecanoricola*

\***pertusariicola** (Nyl.) D. Hawksw. = *Lichenodiplis pertusariicola*

**LAHMIA** Körber

**fueistingii** Körber = *Arthrorhaphis grisea*

**LAMBIELLA** Hertel

**arenosa** [McCune & Lumbsch](#) (McCune & Lumbsch 2017)

**caeca** (J. Lowe) Resl & T. Sprib. Syns.: *Lecidea caeca*, *Rimularia caeca* (Resl et al. 2015)

**furvella** (Nyl. ex Mudd) M. Westb. & Resl Syns.: *Lecidea furvella*, *Rimularia furvella* (Resl et al. 2015)

**gyrizans** (Nyl.) M. Westb. & Resl Syn.: *Rimularia gyrizans* (Resl et al. 2015)

**impavida** (Th. Fr.) M. Westb. & Resl. Syns.: *Lecidea impavida*, *Rimularia impavida* (Resl. et al. 2015)

#**insularis** (Nyl.) T. Sprib. (Spribille et al. 2014a) Syns.: *Lecidea insularis*, *Rimularia insularis*

**sphacelata** (Th. Fr.) M. Westb. & Resl Syns.: *Lecidea sphacelata*, *Rimularia sphacelata* (Resl et al. 2015)



## **LASALLIA** Mérat

**caroliniana** (Tuck.) Davydov, Peršoh & Rambold Syn.: *Umbilicaria caroliniana* (Davydov et al. 2010)

**papulosa** (Ach.) Llano Syn.: *Umbilicaria pustulata* var. *papulosa*, *U. papulosa*

**pensylvanica** (Hoffm.) Llano Syn.: *Umbilicaria pensylvanica*

**pustulata** (L.) Mérat Syn.: *Umbilicaria pustulata*

*pustulata* subsp. *papulosa* (Ach.) W. A. Weber = *L. papulosa*

## **LASIOSPHAERIOPSIS** D. Hawksw. & Sivan.

\***stereocaulicola** (Lindsay) O. E. Eriksson & R. Sant. (Zhurbenko & Daniëls 2003)

## **LATHAGRIUM** (Ach.) Gray (Otálora et al. 2014)

**auriforme** (With.) Otálora, P. M. Jørg. & Wedin Syn.: *Collema auriculatum*, *C. auriforme*, *C. granosum* auct.

**cristatum** (L.) Otálora, P. M. Jørg. & Wedin Syn.: *Collema cristatum*, *C. cristatum* var. *marginale*

**dichotomum** (With.) Otálora, P. M. Jørg. & Wedin Syn.: *Collema dicotomum* *C. fluviatile*, *C. stenophyllum*

**fuscovirens** (With.) Otálora, P. M. Jørg. & Wedin Syn.: *Collema furvum*, *C. fuscovirens*, *C. tuniforme*

**undulatum** (Flotow) Otálora, P. M. Jørg. & Wedin Syn.: *Collema undulatum*

## **LAUDERLINDSAYA** J. C. David & D. Hawksw. (McCune 1997a) = *Normandina* (Muggia et al. 2010)

\***borreri** (Tul.) J. C. David & D. Hawksw. (McCune 1997a) = *Normandina pulchella*

## **LAURERA** Rchb.

*madreporiformis* (Eschw.) Riddle = *Bathelium madreporiforme* (Harris 1995a)

**megasperma** (Mont.) Riddle = *Astrothelium megaspermum*

**subdisjuncta** (Müll. Arg.) R. C. Harris = *Astrothelium subdisjunctum*

*varia* (Fée) Zahlbr. = misidentification for *North America*

## **LECANACTIS** Körber

**abietina** (Ach.) Körber

[**Bacidia akompsa** (Tuck.) Fink]

**californica** Tuck.

**dubia** G. Merr.

**epileuca** (Nyl.) Tehler Syn.: *Platygrapha subattingens*, *Schismatomma subattingens*

**salicina** Zahlbr.

*amylacea* (Ehrh. ex Pers.) Arnold = *Lecanographa amylacea*

*chloroconia* Tuck. = *Cresponea chloroconia*

*dimelaenoides* Egea & Torrente = *Lecanographa dimelaenoides*

\**grumulosa* (Dufour) Fr. = *Lecanographa grumulosa*

*illicebrosa* (Dufour) Fr. = *Lecanographa amylacea*

*megaspora* (G. Merr.) Brodo = *L. abietina*

*nashii* Egea & Torrente = *Lecanographa hypothallina*

*patellarioides* (Nyl.) Vainio = *Bactrospora patellarioides*

*premnea* (Ach.) Arnold = *Cresponea premnea*

*ravenelii* (Tuck.) R. C. Harris = *Opegrapha ravenelii*

*subattingens* (Nyl.) R. C. Harris = *L. epileuca*

*subdryophila* Follmann & Vězda = *Lecanographa subdryophila*

*zahlbruckneri* Herre (Fink 1935) = *L. californica* (Ryan & Tehler 2004)

## **LECANIA** A. Massal.

**aipospila** (Wahlenb.) Th. Fr. (McCune 2017) Syn.: *Lecanora spodophaeiza*

**arizonica** B. D. Ryan & van den Boom (van den Boom & Ryan 2004b)

**brunonis** (Tuck.) Herre

#**caloplacicola** B. D. Ryan & van den Boom (van den Boom & Ryan 2004b)

**chalcophila** B. D. Ryan & van den Boom (van den Boom & Ryan 2004b)  
**coeruleorubella** (Mudd) M. Mayrhofer (van den Boom & Ryan 2004b)  
**constricta** W. A. Weber  
**croatica** (Zahlbr.) Kotlov (Harris & Lendemer 2010)  
**cuprea** (A. Massal.) van den Boom & Coppins Syn.: *Bacidia cuprea*, *B. cupreorosella*, *Bilimbia cupreorosella*  
**cyrtella** (Ach.) Th. Fr. Syn.: *Biatora cyrtella*, *Lecidea cyrtella*  
**dubitans** (Nyl.) A. L. Sm.  
**dudleyi** Herre  
**erysibe** (Ach.) Mudd  
**flavescens** Lynge (Thomson 1997)  
**franciscana** (Tuck.) K. Knudsen & Lendemer Syns.: *Biatora franciscana*, *Catillaria franciscana* (Knudsen & Lendemer 2007)  
**fructigena** Zahlbr.  
**fuscella** (Schaerer) Körber  
**fuscelloides** B. D. Ryan & van den Boom (van den Boom & Ryan 2004b)  
**[Catillaria groenlandica** Lynge]  
**hassei** (Zahlbr.) W. Noble Syn.: *Solenopsora hassei*  
**hutchinsiae** (Nyl.) A. L. Sm. (Spribille et al. 2010)  
**inundata** (Hepp ex Körber) M. Mayrhofer (van den Boom & Ryan 2004b)  
**koerberiana** J. Lahm (McCune 2017)  
**madida** Reese Naesb. & Björk (Reese Naesborg 2008)  
**naegelii** (Hepp) Diederich & van den Boom Syn.: *Bacidia naegelii*, *Bilimbia naegelii* (Ekman 1996)  
**nylanderiana** A. Massal.  
**pacifica** Zahlbr. ex B. D. Ryan & van den Boom (van den Boom & B. D. Ryan 2004b)  
**polycycla** (Anzi) Lettau (van den Boom & B. D. Ryan 2004b)  
**prasinoides** Elenkin (Reese Naesborg 2008)  
**rabenhorstii** (Hepp) Arnold (van den Boom & B. D. Ryan 2004b)  
**ryaniana** van den Boom (van den Boom & Ryan 2004b)  
**shastensis** Herre  
**stigmatella** (Tuck.) S. Ekman (Ekman 1996) Syn.: *Bacidia stigmatella*  
**subcaesia** (Nyl.) B. de Lesd.  
**subfuscula** (Nyl.) S. Ekman (Ekman 1996) Syns.: *Bacidia sibiriensis*, *B. subfuscula*  
**toninioides** Zahlbr.  
**turicensis** (Hepp) Müll. Arg.  
*albariella* (Nyl.) Müll. Arg. = *L. turicensis*  
*alpivaga* Th. Fr. = *Halecania alpivaga*  
*arctica* Lynge = *Caloplaca diphyodes*  
*brattiae* B. D. Ryan & van den Boom (van den Boom & Ryan 2004b) = *L. hassei* (Knudsen & Lendemer 2007)  
*californica* (Zahlbr.) Fink = *L. turicensis* (van den Boom & Ryan 2004b)  
*cyathiformis* Szatala (Tavares et al. 1997) = *Solenopsora cyathiformis*  
*cyrtellina* (Nyl.) Sandst. = *L. cyrtella*  
*curvescens* (Mudd) A. L. Sm. = *Bryonora curvescens*  
*dimera* (Nyl.) Th. Fr. = *L. dubitans*  
*disceptans* (Nyl.) Lynge = *Halecania alpivaga* (Dillman et al. 2011)  
*pepegospora* H. Magn. = *Halecania pepegospora*  
*perproxima* auct. = uncertain species of *Lecania*, perhaps *L. chalcophila* (van den Boom & Ryan 2004b)  
*perproxima* (Nyl.) Zahlbr. = *Caloplaca atroalba* (van den Boom & Ryan 2004b)  
*subdispersa* B. D. Ryan [non (Nyl. ex Hasse) Hasse] = *L. franciscana*  
*subdispersa* (Nyl. ex Hasse) Hasse = *Toninia subdispersa*  
*syringea* (Ach.) Th. Fr. = *L. fuscella*  
*tenera* (Nyl.) Clauzade & Cl. Roux = *Cliostomum tenera*  
*thallophila* H. Magn. = *Halecania alpivaga*

## **LECANOGRAPHA** Egea & Torrente

- aggregata** Egea & Torrente (Egea et al. 2004b, as *Lecanographa* “aff.” *aggregata*)
- amylacea** (Ehrh. ex Pers.) Egea & Torrente Syns.: *Lecanactis amylacea*, *L. illecebrosa*, *Opegrapha illecebrosa*
- brattiae** (Egea & Ertz) Ertz & Tehler (Ertz & Tehler 2011) Syn.: *Opegrapha brattiae*
- dimelaenoides** (Egea & Torrente) Egea & Torrente Syn.: *Lecanactis dimelaenoides*
- \*grumulosa** (Dufour) Egea & Torrente Syns.: *Opegrapha diaphoroides*, *Lecanactis grumulosa*, but questionable for North America
- hypothallina** (Zahlbr.) Egea & Torrente Syns.: *Platygrapha hypothallina*, *Schismatomma hypothallinum*, *Opegrapha hypothallina*, *O. hassei*, *Lecanactis nashii*
- insolita** Lendemer & K. Knudsen (Lendemer & Knudsen 2010)
- lyncea** (Sm.) Egea & Torrente (Egea et al. 2004b)
- lynceoides** (Müll. Arg.) Egea & Torrente (Egea et al. 2004b)
- subdryophila** (Follmann & Vězda) Egea & Torrente Syn.: *Lecanactis subdryophila*

## **LECANORA** Ach.

- achroa** Nyl. (Lücking et al. 2011b)
- achroides** Vainio
- actophila** Wedd.
- aitema** (Ach.) Hepp Syn.: *Lecidea aitema*
- alaskensis** H. Magn.
- albella** (Pers.) Ach. var. **albella**
- albella** var. **rubescens** (Imshaug & Brodo) Lumbsch
- albellula** Nyl. (Printzen 2001)
- albocaesiella** B. D. Ryan & T. H. Nash (Ryan et al. 2004)
- albula** (Nyl.) Hue
- aleutica** H. Magn.
- allophana** (Ach.) Nyl.
- anakeestiicola** Lendemer & E. Tripp (Lendemer & Tripp 2015)
- annularis** Lendemer & K. Knudsen (Knudsen et al. 2014c)
- anopta** Nyl. Syns.: *Biatora pullula*, *Lecidea pullula* (Pérez-Ortega et al. 2010)
- anoptiza** Nyl.
- apochroeoides** Vainio
- appalachensis** Lendemer & R. C. Harris (Lendemer et al. 2013)
- arenisaxicola** B. D. Ryan & T. H. Nash (Ryan et al. 2004)
- argentata** (Ach.) Malme
- argentea** Oxner & Volkova
- argopholis** (Ach.) Ach.
- atrosulphurea** (Wahlenb.) Ach.
- austrocalifornica** Lendemer & K. Knudsen (Lendemer & Knudsen 2009)
- bicincta** Ramond
- boligera** (Norman ex Th. Fr.) Hedl.
- brattiae** B. D. Ryan & T. H. Nash (Ryan et al. 2004)
- brodoana** Lumbsch & T. H. Nash
- [**Parmularia brouardii** B. de Lesd.]
- bryopsora** (Doppelb. & Poelt) Hafellner & Türk (Dillman et al. 2012)
- cadubriae** (A. Massal.) Hedl. Syns.: *Lecidea cadubriae*, *L. ramulicola*
- caesiorubella** Ach. subsp. **caesiorubella**
- caesiorubella** subsp. **glaucomodes** (Nyl.) Imshaug & Brodo
- caesiorubella** subsp. **merrillii** Imshaug & Brodo
- caesiorubella** subsp. **saximontana** Imshaug & Brodo
- caesiosora** Poelt (Miller et al. 2005)
- caesiosulphurea** Vainio
- californica** Brodo
- campestris** (Schaerer) Hue
- canadensis** Lynge & H. Magn.



**carneolutescens** Nyl. (Lumbsch et al. 2003)  
**carpinea** (L.) Vainio  
**cateilea** (Ach.) A. Massal.  
**[Lecidea caulophylla** (Tuck.) Zahlbr.]  
**cavicola** Creveld (Nash et al. 1998)  
**cenisia** Ach.  
**chlarotera** Nyl.  
**chloroleprosa** (Vainio) H. Magn. (Spribille et al. 2010)  
**chlorophaeodes** Nyl.  
**cinereofusca** H. Magn.  
**circumborealis** Brodo & Vitik.  
**cladonioides** Lynge  
**collatolica** J. W. Thomson & T. H. Nash  
**comonduensis** T. H. Nash & Hertel (Nash & Hertel 1997)  
**confusa** Almb.  
**congesta** Lynge  
**coniferarum** Printzen (Printzen 2001)  
**conizaeoides** Nyl. ex Crombie  
**cupressi** Tuck.  
**demosthenesii** Lumbsch & Messuti (Lumbsch et al. 2003)  
**densa** (Śliwa & Wetmore) Printzen (Printzen 2001)  
**discoënsis** Lynge  
**elapheia** Stizenb. (Lücking et al. 2011b)  
**epanora** (Ach.) Ach.  
**epibryon** (Ach.) Ach.  
**expallens** Ach.  
**farinaria** Borrer  
**floridula** Lumbsch  
**frustulosa** (Dickson) Ach. (Spribille et al. 2010)  
**fuscescens** (Sommerf.) Nyl. Syn.: *Lecidea fuscescens*  
**fuscidula** Degel.  
**gangaleoides** Nyl.  
**geophila** (Th. Fr.) Poelt  
**glabrata** (Ach.) Malme  
**granulifera** (Ach.) Nyl.  
**groenlandica** Lynge  
**gypticola** St. Clair & Newberry (Rajvanshi et al. 1998)  
**helicopis** (Wahlenb.) Ach. (identification uncertain)  
**horiza** (Ach.) Lindsay  
**hybocarpa** (Tuck.) Brodo  
**hypocrocina** Nyl. (Seavey & Seavey 2012)  
**hypopta** (Ach.) Vainio Syn.: *Lecidea hypopta*  
**hypoptoides** (Nyl.) Nyl.  
**impudens** Degel. In eastern N.A. at least, a misapplied name (Lendemer et al. 2013)  
**imshaugii** Brodo  
**inaurata** C. A. Morse & Ladd (Morse & Ladd 2016)  
**insignis** Degel.  
**intricata** (Ach.) Ach.  
**intumescens** (Rebent.) Rabenh.  
**iowensis** Fink  
**jamesii** J. R. Laundon (Tønsberg 1997)  
**kariana** Räsänen  
**latens** Printzen (Printzen 2001)  
**laxa** (Śliwa & Wetmore) Printzen (Printzen 2001)  
**layana** Lendemer (Lendemer 2015)  
**leprosa** Fée

**leptacina** Sommerf.  
**leptacinella** Nyl.  
**lividolutea** Räsänen  
**louisianae** B. de Lesd.  
**luteovernalis** Brodo  
**marginata** (Schaerer) Hertel & Rambold Syns.: *Lecidea marginata*, *L. elata*, *L. purissima*. See note under "*Lecidea amylacea*."  
**masana** Lendemer & R. C. Harris (Lendemer et al. 2013)  
**maxima** Lynge  
**melaena** (Hedl.) Fink  
**mellea** W. A. Weber  
**meridionalis** H. Magn.  
**microbola** I. M. Lamb  
**microfusca** Lynge  
**miculata** Ach.  
**minutella** Nyl.  
**monticola** H. Magn.  
**mughicola** Nyl.  
**munzii** K. Knudsen & Lendemer (Knudsen & Lendemer 2009c)  
**nashii** B. D. Ryan (Ryan et al. 2004)  
**nealbomarginata** Gyelnik  
**neodegelii** B. D. Ryan & T. H. Nash Syn.: *Squamarina degelii* (Ryan et al. 2004)  
**nordenskioeldii** Vainio  
**nothocaesiella** R. C. Harris & Lendemer (Lendemer et al. 2013)  
**ochraceorubescens** Arnold (LaGreca & Lumbsch 2001)  
**orae-frigidae** R. Sant.  
**oreinoides** (Körber) Hertel & Rambold Syns.: *Lecidea oreinodes*, *L. tennesseensis*, *L. tesselina*  
**orizabana** Vainio (Lumbsch et al. 2003)  
**orosthea** (Ach.) Ach. Syn.: *Lecidea orosthea*  
**pacifica** Tuck. Syn.: *L. tetraspora*  
**paddensis** (Tuck.) T. Sprib. Syns.: *Biatora paddensis*, *Lecidea paddensis* (McCune et al. 2014b)  
**pallidochlorina** T. H. Nash, B. D. Ryan & Lumbsch (Ladd & Morse 2012)  
**pannonica** Szatala (McCune 2017)  
**peninsularis** K. Knudsen, Lendemer & Elix (Knudsen et al. 2011a)  
**permutata** Zahlbr.  
**perplexa** Brodo  
**phaeophora** (Stizenb.) H. Magn. Syn.: *Lecidea phaeophora*, *Biatora phaeophora*  
**phryganitis** Tuck.  
**placidensis** (Magnusson) Knoph, Leuckert & Rambold (Knoph & Leuckert 1994) Syns.: *Lecidea placidensis*, *Lecidella placidensis*, *Fuscidea placidensis*  
**plumosa** Müll. Arg. (Nash et al. 1998)  
**poliophaea** (Wahlenb.) Ach.  
**poluninii** Lynge  
**polytropa** (Ehrh.) Rabenh.  
**populicola** (DC.) Duby  
**pringlei** (Tuck.) I. M. Lamb subsp. **pringlei** Syn: *Lecidea pringlei*  
**pringlei** subsp. **brandegei** (Tuck.) Ryan (Ryan et al. 2004)  
**proserpens** Nyl. (Barrett & Thomson 1975)  
**protervula** Stirton (Stirton 1876)  
**pseudargentata** Lumbsch (LaGreca & Lumbsch 2001)  
**pseudistera** Nyl.  
**pseudolivacea** Zahlbr. (Esslinger & Tucker 2009)  
**pseudomellea** B. D. Ryan  
**pseudosarcopidoides** M. Brand & van den Boom (Hutten et al. 2013)  
**pulicaris** (Pers.) Ach.  
**reagens** Norman

**remota** K. Knudsen & Lendemer (Knudsen et al. 2017)  
**rhodi** Szatala (LaGreca & Lumbsch 2001)  
**rubicunda** Bagl.  
**rupicola** (L.) Zahlbr. Syn.: *Glaucumaria rupicola*, *G. sordida*  
**salicicola** H. Magn.  
**saligna** (Schrader) Zahlbr. Syn.: *Lecanoropsis saligna*  
**sarcopidoides** (A. Massal.) Hedl. (Hutten et al. 2013)  
**saxigena** Lendemer & R. C. Harris (Lendemer & Harris 2014d)  
**scrobiculata** (Th. Fr.) Øvstedal & Elix Syn.: *Lecidea scrobiculata* (Elix & Øvstedal 2004)  
**semitensis** (Tuck.) Zahlbr.  
**sierrae** B. D. Ryan & T. H. Nash  
**simeonensis** K. Knudsen & Lendemer (Lendemer & Knudsen 2009)  
**sophodopsella** Nyl.  
**soralifera** (Suza) Räsänen (McCune 2017)  
**stenotropa** Nyl. (LaGreca & Lumbsch 2001)  
**stramineoalbida** Vainio (Lendemer & Knudsen 2011)  
**strobilina** (Sprengel) Kieffer  
**subcavicola** B. D. Ryan (Ryan et al. 2004)  
**subimmergens** Vainio  
**subintricata** (Nyl.) Th. Fr.  
**subpallens** Zahlbr. (Lumbsch et al. 1997, Lendemer 2004e)  
**subravida** Nyl. (Hutten et al. 2013)  
**subrugosa** Nyl.  
**subsaligna** M. Brand & van den Boom (van den Boom & Brand 2008)  
**substrobilina** Printzen (Printzen 2001)  
**sulphurea** (Hoffm.) Ach. Syn.: *Lecidea sulphurea*  
**swartzii** (Ach.) Ach. (Nash et al. 1998)  
**symmicta** (Ach.) Ach. Syn.: *Lecidea symmicta*  
**texana** W. A. Weber  
**thallophila** H. Magn.  
**thysanophora** R. C. Harris (Harris et al. 2000)  
**tristiuscula** H. Magn.  
**tropica** Zahlbr. (Seavey & Seavey 2012)  
**umbrosa** Degel.  
**urceolaria** (Fr.) Wetm.  
**utahensis** H. Magn. (Knudsen 2012)  
**valesiaca** (Müll. Arg.) Stizenb.  
**varia** (Hoffm.) Ach.  
**vegae** Malme  
**viriduloflava** B. de Lesd.  
**willeyi** Tuck.  
**wisconsinensis** H. Magn.  
**xanthosora** B. D. Ryan & Poelt  
**xylophila** Hue  
**zeroensis** Lendemer (Knudsen et al. 2011b)  
agardhiana Ach. (Śliwa 2007b) = *Myriolecis agardhiana*  
albescens (Hoffm.) Branth & Rostrup (Śliwa 2007b, Laundon 2010) = *Myriolecis albescens*  
albomarginata (B. de Lesd.) Zahlbr. = *Aspicilia albomarginata*  
albopruinosa Looman = an *Aspicilia* sp.  
alboradiata H. Magn. = *Aspicilia alboradiata*  
aliena Zahlbr. = *Aspicilia aliena*  
alphoplaca (Wahlenb.) Ach. = *Lobothallia alphoplaca*  
alpina Sommerf. = *Bellemerea alpina*  
americana (B. de Lesd.) Zahlbr. = *Aspicilia americana*  
andrewii B. de Lesd. (Śliwa 2007b) = *Myriolecis andrewii*  
annulata Lynge = *Aspicilia annulata*



anseris Lynge = *Aspicilia anseris*  
 applegatei Herre = *Bellemeria alpina* (Owe-Larsson & Ryan 2007)  
 aquatica (Körber) Hepp = *Aspicilia aquatica*  
 arctica Lynge = *Aspicilia arctica*  
 arizonica (Tuck. ex Willey) W. A. Weber = *Omphalora arizonica*  
 atra (Hudson) Ach. = *Tephromela atra*  
 atriseda (Fr.) Nyl. = *Protoparmelia atriseda*  
 atosanguinea G. Merr. = *Caloplaca atosanguinea*  
 atrynea (Ach.) Röhl. = *Lecanora cenisia*  
 badia (Hoffm.) Ach. = *Protoparmelia badia*  
 barkmaniana Aptroot & Herk (Kaminsky et al. 2013) = misidentification of *L. floridula* (Lendemer & Harris 2014b)  
 basaltica Lynge = *Aspicilia narssaquensis*  
 beringii Nyl. ("behringii") = *L. zosteræ* var. *beringii* (Śliwa 2007b)  
 bipruinosa Fink = *Protoparmeliopsis bipruinosa*  
 bockii (Fr.) Rabenh. = *Rimularia gibbosa*  
 bolanderi Tuck. = *Cladidium bolanderi*  
 caesiocinerea Nyl. ex Malbr. = *Circinaria caesiocinerea*  
 caesiopruinosa H. Magn. = *Aspicilia caesiopruinosa*  
 caesiorubella subsp. *lathamii* Imshaug & Brodo = *L. subpallens*  
 caesiorubella subsp. *prolifera* (Fink) R. C. Harris = *L. subpallens*  
 calcarea (L.) Sommerf. = *Circinaria calcarea*  
 cancriformis (Hoffm.) Vainio = *L. caesiorubella* Ach. subsp. *caesiorubella*  
 candida (Anzi) Nyl. = *Aspicilia candida*  
 candida (Anzi) Nyl. var. *nikrapensis* (Darb.) Oxner (Barrett & Thomson 1975) = *Aspicilia candida*  
 carlottiana Lewis & Śliwa (Lewis & Śliwa 2012) = *Myriolecis carlottiana*  
 cascadenis H. Magn. = *Protoparmeliopsis garovaglii*  
 castanea (Hepp) Th. Fr. = *Bryonora castanea*  
 chlarona (Ach.) Nyl. = *L. pulicaris*  
 chlorophana (Wahlenb.) Ach. = *Pleopsidium chlorophanum*  
 chloropolia (Erichsen) Almb. = *L. impudens* for most North American records  
 christoi W. A. Weber = *Rhizoplaca phaedrophthalma*  
 chrysoleuca (Sm.) Ach. = *Rhizoplaca chrysoleuca*  
 cinerea (L.) Sommerf. = *Aspicilia cinerea*  
 cinereofusca var. *appalachensis* Brodo = *L. saxigena* (Lendemer & Harris 2014d)  
 cinereorufescens (Ach.) Hepp = *Bellemeria cinereorufescens*  
 cingulata Zahlbr. = *Aspicilia cingulata*  
 circinata (Pers.) Ach. = *Lobothallia radiosa*  
 coilocarpa auct. = *L. circumborealis*  
 coilocarpa (Ach.) Nyl. = *L. pulicaris*  
 composita Lynge = *Aspicilia composita*  
 concinna J. W. Thomson = *Aspicilia concinna*  
 conizaea auct. = *L. strobilina*  
 conizaea (Ach.) Nyl. ex Crombie = *L. expallens*  
 constipans (Nyl.) Nyl. (Fink 1935) = *Edrudia constipans*  
 contorta (Hoffm.) J. Steiner = *Circinaria contorta*  
 contractula Nyl. = *Myriolecis contractula*  
 crenulata Hooker (Śliwa 2007b) = *Myriolecis crenulata*  
 crustacea (Savicz) Zahlbr. (Ryan & Nash 1997b) = *Protoparmeliopsis crustacea*  
 degelii T. Schauer & Brodo = *L. cinereofusca* var. *cinereofusca*  
 demissa (Körber) Zahlbr. = *Caloplaca demissa*  
 deplanans Nyl. = *Ionaspis lacustris* (Lendemer & Yahr 2004)  
 desertorum Kremp. North American reports are *Circinaria arida*  
 diffracta Ach. = *Protoparmeliopsis muralis*  
 diphasia Tuck. = *Caloplaca diphasia*  
 disceptans Nyl. = *Halecania alpivaga* (Dillman et al. 2011)

dispersa (Pers. ) Sommerf. = Myriolecis dispersa  
 dispersoareolata (Schaerer) Lamy = Protoparmeliopsis dispersoareolata  
 disserpens (Zahlbr.) H. Magn. = Aspicilia disserpens  
 distans (Pers. ex Ach.) Nyl. = L. populicola  
 effusa (Hoffm.) Ach. = L. saligna  
 elevata Lynge = Aspicilia elevata  
 elmorei E. D. Rudolph = Circinaria elmorei  
 epulotica (Ach.) Nyl. = Hymenelia epulotica  
 erythrantha Tuck. (Fink 1935) = Caloplaca erythrantha (Wetmore 2007b)  
 exigua f. pruinosa Merrill = Rinodina hallii (Sheard 2010)  
 eyerdamii Herre = L. xylophila  
 filamentosa (Stirton) Elix & Palice (Pérez-Ortega et al. 2010; Palice et al. 2011) = Palicella  
 filamentosa (Rodriguez Flakus & Printzen 2014)  
 fimbriata H. Magn. = Aspicilia fimbriata  
 flavida Hepp = Eiglera flavida  
 flavopunctata Tønsberg = Biatora flavopunctata  
 floridana Tuck. = Caloplaca floridana  
 flotoviana Sprengel (Ryan et al. 2004) = Myriolecis semipallida for North American reports (Śliwa 2007a, Zhao et al. 2016)  
 flowersiana H. Magn. = Myriolecis flowersiana  
 frustulosa auct. N. A. in part = L. argopholis (Vänska 1984)  
 fugiens Nyl. (Ryan et al. 2004, as Lecanora “aff.” fugiens, Śliwa 2007b) = Myriolecis fugiens  
 fuliginosa Brodo = L. argentea  
 fulva Schwein. (Fink 1935) Identity uncertain (Harris 2004)  
 fuscidula Degelius = L. minutella Nyl. (LaGreca & Lumbsch 2001)  
 galactina (Ach.) Nyl. (Fink 1935) = Myriolecis albescens (Scholz 2000, Zhao et al. 2016))  
 galactinula Vainio = L. pseudistera  
 garovaglii (Körber) Zahlbr. subsp. garovaglii = Protoparmeliopsis garovaglii  
 garovaglii subsp. cascadiensis (H. Magn.) B. D. Ryan & T. H. Nash (Ryan et al. 2004) = Protoparmeliopsis garovaglii  
 geiserae B. D. Ryan (Ryan et al. 2004) = Protoparmeliopsis geiserae  
 gelida (L.) Ach. = Placopsis gelida  
 gibbosa (Ach.) Nyl. = Circinaria gibbosa  
 gibbosula H. Magn. = Circinaria gibbosa  
 glaucomela Tuck. = Pertusaria glaucomela  
 glaucophana Nyl. ex Hasse = Rhizoplaca glaucophana  
 glaucopsina Nyl. = Aspicilia glaucopsina  
 granatina Sommerf. = Euopsis granatina  
 granifera Ach. = Malmidea granifera  
 grandis H. Magn. = Protoparmelia badia  
 grantii H. Magn. = L. xylophila  
 gyalectodes Nyl. = Topelia gyalectodes  
 gyrophorica Lendemer (Knudsen & Lendemer 2009c) = Protoparmeliopsis gyrophorica  
 hagenii (Ach.) Ach. = Myriolecis hagenii  
 haydenii Tuck. = Rhizoplaca haydenii  
 heteroplaca Zahlbr. = Aspicilia heteroplaca  
 holophaea (Mont.) Nyl. = Solenopsora holophaea  
 hypospilota Vainio = L. oreinoides  
 incusa (Fr.) Vainio = Caloplaca demissa  
 intrudens H. Magn. = Miriquidica intrudens  
 invadens H. Magn. (Śliwa 2007b) = Myriolecis invadens  
 juniperina Śliwa (Ryan et al. 2004) = Myriolecis juniperina  
 kofae B. D. Ryan & T. H. Nash = Protoparmeliopsis kofae  
 laatokkaensis (Räsänen) Poelt = Protoparmeliopsis laatokkaensis  
 lacustris (With.) Nyl. = Ionaspis lacustris  
 laevata (Ach.) Nyl. = Aspicilia laevata

laevis Poelt = *L. horiza*, but N. American records are *L. xylophila*  
 lavata (H. Magn.) Fink = *Ionaspis lavata*  
 lentigera (Weber) Ach. = *Squamarina lentigera*  
 lesleyana (Darb.) Paulson = *Aspicilia lesleyana*  
 limitata H. Magn. = *Aspicilia limitata*  
 marginalis Hasse = *Rhizoplaca marginalis*  
 mastoidea Lynge = *Aspicilia berntii*  
 mastrucata (Wahlenb.) Ach. (Wetmore 1967) = *Sagedia mastrucata*  
 mazatzalensis B. D. Ryan & T. H. Nash = *Protoparmeliopsis mazatzalensis*  
 melanaspis (Ach.) Ach. = *Lobothallia melanaspis*  
 melanophthalma (DC.) Ramond = *Rhizoplaca melanophthalma*  
 mniaroeiza Nyl. = *Rinodina mniaroeiza*  
 morioides (Blomb. ex Arnold) Blomb. = *Clauzadeana macula*  
 muralis (Schreber) Rabenh. = *Protoparmeliopsis muralis*  
 muralis var. brunneola (Mereschk.) Ryan & T. H. Nash (Nash et al. 1998) = *Protoparmeliopsis muralis*  
 muralis var. versicolor (Pers.) Tuck. = *Protoparmeliopsis muralis*  
 mutabilis Sommerf. = *L. intricata*  
 mutabilis (Ach.) Nyl. = *Megaspora verrucosa*  
 myrina Fée (Fink 1935) Identity uncertain; possible orthographic error for *L. myrinii* (Esslinger & Tucker 2009)  
 myrinii (Fr.) Tuck. = *Aspilidea myrinii*  
 narssaquensis Lynge = *Aspicilia narssaquensis*  
 nephaea Sommerf. = *Protoparmelia nephaea*  
 nevadensis H. Magn. = *Protoparmeliopsis garovaglii*  
 nigromarginata H. Magn. = *Rhizoplaca nigromarginata*  
 nikrapensis (Darb.) Zahlbr. = *Aspicilia nikrapensis*  
 novae-semliae Zahlbr. = *Aspicilia novae-semliae*  
 novomexicana H. Magn. = *Rhizoplaca novomexicana*  
 novomexicana B. de Lesd. = identity uncertain  
 obpallens Nyl. ex Hasse = *Acarospora obpallens*  
 occidentalis (Lynge) Lynge = *L. argopholis*  
 ochrococca (Nyl.) Clauzade & Cl. Roux = *Protoparmelia ochrococca*  
 odora (Ach.) Tuck. (Fink 1935) = *Ionaspis odora*  
 olivacea (Bagl. & Carestia) J. Steiner (Herre 1911, Fink 1935) = *Lecanora pseudolivacea*  
 olivaceopallida H. Magn. = *Aspicilia olivaceopallida*  
 opiniconensis Brodo = *Rhizoplaca opiniconensis*  
 oregana Tuck. = *L. argopholis*  
 pachythallina Lynge = *L. geophila*  
 palanderi Vainio = *L. zosteræ*  
 pallescens (L.) Röhl = *Ochrolechia pallescens* (L.) A. Massal., but misidentification for North America  
 pallescens var. upsaliensis (L.) Flotow = *Ochrolechia upsaliensis*  
 pallida (Schreber) Rabenh. var. pallida = *L. albella* var. *albella*  
 pallida var. rubescens Imshaug & Brodo = *L. albella* var. *rubescens*  
 parisiensis Nyl. = *L. horiza*  
 pelobotrya (Wahlenb.) Sommerf. = *Amygdalaria pelobotryon*  
 peltata (Ramond) Steudel = *Protoparmeliopsis peltata*  
 peltastictoides Hasse (Knudsen 2003) = *Aspicilia peltastictoides* (Knudsen & Kocourková 2013)  
 percrenata H. Magn. (Śliwa 2007b) = *Myriolecis percrenata*  
 pergibbosa H. Magn. = *Aspicilia pergibbosa*  
 perpruinosa Fröberg (Śliwa 2007b) = *Myriolecis perpruinosa*  
 perradiata Nyl. = *Aspicilia perradiata*  
 persimilis (Th. Fr.) Nyl. = *Myriolecis persimilis*  
 pertusa Lynge = *Aspicilia pertusa*  
 phaedrophthalma Poelt var. phaedrophthalma = *Rhizoplaca phaedrophthalma*  
 phaedrophthalma var. christoi (W. A. Weber) B. D. Ryan (Ryan et al. 2004) = *Rhizoplaca phaedrophthalma*



phaeobola Tuck. = *Protoparmelia ochrococca*  
 pinastri (Schaerer) H. Magn. = *L. pulicaris*  
 pinguis Tuck. = *Protoparmeliopsis pinguis*  
 piniperda Körber = *L. albellula* Nyl. (Printzen 2001)  
 pleiospora Nyl. = *Acarospora thelococcoides*  
 pleistospora Nyl. = *Acarospora thelococcoides*  
 plicigera Zahlbr. = *Aspicilia plicigera*  
 polychroma (Anzi) Nyl. = *Aspicilia polychroma*  
 praecrenata Nyl. = *Aspicilia praecrenata*  
 praeradiosa Nyl. = *Lobothallia praeradiosa*  
 privigna (Ach.) Nyl. = *Polysporina simplex*  
 privigna var. revertens Tuck. = *Polysporina simplex*  
 pruinosa Chaub. Not in North America  
 pseudochlarotera Brodo = *L. hybocarpa*  
 punicea (Sw.) Ach. North American records are *Haematomma persoonii*  
 radiosa (Hoffm.) Schaerer = *Lobothallia radiosa*  
 ramulicola (H. Magn.) Printzen & P. May (Printzen & May 2002) = *L. filamentosa*  
 reptans Looman = *Aspicilia reptans*  
 riparia G. Merr. non (Flotow) M. Steiner = *L. xylophila*  
 rolleana (Hue) Zahlbr. = *Aspicilia rolleana*  
 rosulata (Körber) Stizenb. = *Aspicilia rosulata*  
 rubina (Vill.) Ach. = *Rhizoplaca chrysoleuca*  
 rugosa auct. (Fink 1935) = *L. chlarotera* (Brodo 1984)  
 rugosella Zahlbr. = *L. chlarotera* (Ryan et al. 2004)  
 ryrkaipiae H. Magn. = *Aspicilia ryrkaipiae*  
 salina H. Magn. = *Myriolecis salina*  
 sambuci (Pers.) Nyl. = *Myriolecis sambuci*  
 sanguinea (Kremp.) Mig. = *Bellemeria sanguinea*  
 saxicola (Pollich) Ach. = *Protoparmeliopsis muralis*  
 schizochromatica Pérez-Ortega, T. Sprib. & Printzen (Pérez-Ortega et al. 2010) = *Palicella*  
 schizochromatica (Rodríguez Flakus & Printzen 2014)  
 schofieldii Brodo (Brodo 2010) = *Myriolecis schofieldii*  
 scotopholis (Tuck.) Timdal = *Miriquidica scotopholis*  
 semipallida H. Magn. (Fryday 2004a) = *Myriolecis semipallida*  
 sipeana H. Magn. = *Aspicilia sipeana*  
 sordida (Pers.) Th. Fr. = *L. rupicola*  
 spodophaeiza Nyl. (Fink 1935, Ryan et al. 2004) = *Lecania aipospila*  
 stenospora Stizenb. = *Pleopsidium flavum*  
 straminea Ach. = *Myriolecis straminea*  
 stygioplaca Nyl. = *Aspicilia subradians*  
 subdispersa Nyl. ex Hasse = *Toninia subdispersa*  
 subfusca (L.) Ach. = nom. rej. prop. = *L. allophana*  
 subfusca var. campestris (Schaerer) Rabenh. = *Lecanora campestris*  
 subfuscata H. Magn. = *L. argentata*  
 sublapponica Zahlbr. = *Aspicilia sublapponica*  
 subolivascens Nyl. = *Caloplaca demissa*  
 subpallida G. Merr. non C. Knight = *L. subpallens*  
 subradians Nyl. = *Aspicilia subradians*  
 subradiascens Nyl. = *Aspicilia subradians*  
 superfluens H. Magn. = *L. geophila*  
 supertegens (Arnold) Zahlbr. = *Aspicilia supertegens*  
 sylvestris (Nyl.) Zahlbr. = *L. rubicunda*  
 symmictera Nyl. = *L. symmicta*  
 tartarea (L.) Ach. = *Ochrolechia tartarea*  
 tenera (Nyl.) Crombie = *Cliostomum tenerum*  
 tenuis H. Magn. = *Aspicilia tenuis*

tessellina (Tuck.) Zahlbr. = *L. oreinoides*  
 tetraspora H. Magn. = *L. pacifica*  
 thamnitidis Tuck. = *Cladidium bolanderi*  
 thamnoplaca Tuck. = *Lobothallia alphoplaca*  
 thelococcoides Nyl. = *Acarospora thelococcoides* (Lendemer 2004a)  
 thomsonii H. Magn. = *Rhizoplaca novomexicana* (Ryan & Nash 1991, Zhao et al. 2016)  
 torrida Vainio = *Myriolecis torrida*  
 turbinata Poelt & Leuckert = *L. zosteræ* var. *beringii* (Śliwa 2007b)  
 umbrina (Ach.) A. Massal. = *L. hagenii* (Śliwa 2007b)  
 urceolaria (Fr.) Wetmore = *Megaspora verrucosa*  
 varia subsp. *densa* Śliwa & Wetmore (Śliwa & Wetmore 2000) = *L. densa*  
 varia subsp. *laxa* Śliwa & Wetmore (Śliwa & Wetmore 2000) = *L. laxa*  
 variolascens auct. = *L. impudens* for North American records  
 #verrucariicola B. D. Ryan (Ryan et al. 2004) = *Miriquidica verrucariicola* (Knudsen et al. 2015)  
 verrucigera (Hue) Zahlbr. = *Aspicilia verrucigera*  
 verrucosa (Ach.) Laurer = *Megaspora verrucosa*  
 versicolor (Pers.) Ach. = *Protoparmeliopsis muralis*  
 victoriae (F. Wilson) “Tibell” Erroneous creation by typographic error (in ver. 10), should be *Mycocalicium victoriae*  
 weberi B. D. Ryan = *Rhizoplaca weberi*  
 wetmorei Śliwa (Ryan et al. 2004) = *Myriolecis wetmorei*  
 xanthophana Nyl. = *Acarospora xanthophana*, but a misidentification for North America  
 zosteræ (Ach.) Nyl. var. *zosteræ* = *Myriolecis zosteræ*  
 zosteræ var. *beringii* (Nyl.) Śliwa (Śliwa 2007b) = *Myriolecis zosteræ*  
 zosteræ var. *palanderi* (Vainio) Śliwa 2007b) = *Myriolecis zosteræ*

#### LECANOROPSIS M. Choisy

*saligna* (Schrader) M. Choisy = *Lecanora saligna*

#### LECIDEA Ach.

**albofuscens** Nyl.  
**albohyalina** (Nyl.) Th. Fr. Syn.: *Biatora albohyalina* (Printzen & Tønsberg 1999)  
**alpestris** Sommerf.  
**amniculensis** J. Lowe Possibly a syn. of *Brianaria lutulata* (Coppins & Fryday 2006b)  
**atomaria** Th. Fr.  
**atrobrunnea** (Ramond ex Lam. & DC.) Schaerer subsp. **atrobrunnea**  
**atrobrunnea** subsp. **planaica** Hertel & Leuckert (Hertel & Leuckert 2011)  
**atromarginata** H. Magn.  
**atroviridis** (Arnold) Th. Fr.  
**auriculata** Th. Fr. subsp. **auriculata** (Hertel & Andreev 2003)  
**auriculata** subsp. **brachyspora** Th. Fr. (Hertel & Andreev 2003)  
**baffiniana** H. Magn.  
**betulicola** (Kullh.) H. Magn. f. **endamylea** (Hedl.) Hinter. (Printzen & Tønsberg 1999)  
**brachyspora** (Th. Fr.) Nyl.  
**brodoana** Hertel & Leuckert (Hertel & Printzen 2004)  
**brunneofusca** H. Magn.  
**californica** Zahlbr.  
**carneoalbans** Nyl.  
**carnulenta** (Tuck.) Fink  
**cascadensis** H. Magn.  
**cellularis** Lowe  
**cinerata** Zahlbr.  
**commaculans** Nyl. (Fryday 2006)  
**confluens** (Weber) Ach.  
**confluentula** Müll. Arg. (Knudsen & Kocourková 2014b)  
**congesta** Fink

**coriacea** Holien & Palice (Holien et al. 2016)  
**crassilabra** Müll. Arg.  
**crisima** Nyl.  
**cruciaria** Tuck.  
**cyrtidia** Tuck. (Harris 1997)  
**deminutula** H. Magn.  
**deplanaica** (Hertel & Leuckert) McCune Syn.: *L. atroburnnea* ssp. *deplanaica* (McCune et al. 2017)  
**despecta** Th. Fr.  
**diducens** Nyl.  
**eckfeldtii** Zahlbr.  
**ecrustacea** (Anzi ex Arnold) Arnold  
**enalla** Nyl. (Printzen 1995)  
**enterophaea** Vainio  
**epiphaea** Nyl. (Spribille et al. 2010)  
**erythrophaea** Flörke ex Sommerf.  
**extenuata** Vainio  
**flavidolivens** (Tuck.) Fink  
**formosa** (Bagl. & Carestia) Knoph & Leuckert (Knudsen et al. 2017)  
**fuliginosa** Taylor  
**furvonigrans** (Tuck. ex Willey) Zahlbr. (Coppins & Fryday 2006b)  
**fuscatoatra** Nyl.  
**fuscoatra** (L.) Ach.  
**goniophiloides** B. de Lesd.  
**haerjedalica** H. Magn. (Fryday 2004a)  
**hassei** Zahlbr.  
**herteliana** Fryday & Coppins (Fryday & Coppins 2012)  
**hoganii** E. Tripp & Lendemer (Tripp & Lendemer 2015)  
**holopolia** (Tuck.) Zahlbr.  
**homosema** Nyl.  
**hypomela** Nyl.  
**intropallida** Fink  
**katahdinensis** Degel.  
**kingmanii** (Hasse) Hertel & S. Ekman (Hertel & Printzen 2004)  
**laboriosa** Müll. Arg. (Hertel 1995)  
**labradorica** Arnold  
**lactea** Flörke ex Schaerer (McCune et al. 2014b)  
**lapicida** (Ach.) Ach. (Coppins 2002; Hertel & Andreev 2003)  
**leprarioides** Tønsberg  
**leucothallina** Arnold  
**lithophila** (Ach.) Ach.  
**louisianae** B. de Lesd.  
**lyngei** Degel.  
**malmeana** Zahlbr. (Spribille et al. 2010)  
**mamillana** Tuck.  
**mannii** Tuck.  
**meiocarpa** Nyl. var. **tacomensis** Printzen & Tønsberg (Printzen & Tønsberg 1999)  
**melaphanoides** Nyl.  
**merrillii** H. Magn.  
**microps** Tuck. (Fink 1935, Perlmutter & Greene 2005)  
**miccytho** Tuck. ex Willey (Coppins & Fryday 2006b)  
**moreliensis** B. de Lesd.  
**mutabilis** Fée  
**nearingii** H. Magn.  
**nylanderi** (Anzi) Th. Fr.  
**occidentalis** Lynge  
**olivascens** Th. Fr



**oreophila** K. Knudsen & Kocourk. (Knudsen & Kocourková 2014a)  
**pacifica** Herre  
**paupercula** Th. Fr. (Hertel & Andreev 2003)  
**peliaspis** (Tuck.) Zahlbr.  
**perlatolica** Hertel & Leuckert (Hertel & Printzen 2004)  
**phaeopelidna** Vainio  
**phaeops** Nyl.  
**picea** Lynge  
**plana** (J. Lahm) Nyl.  
**plebeja** Nyl.  
**polaris** Lynge  
**polycocca** Sommerf.  
**populina** Müll. Arg. ex Nyl. Syn.: *Micarea populina*  
**praenubila** Nyl.  
**praetermissa** Tønsberg  
**promiscens** Nyl.  
**protabacina** Nyl.  
**pseudaglaea** Hertel (Hertel & Printzen 2004)  
**pulla** Lowe  
**pumicicola** H. Magn.  
**ramulosa** Th. Fr.  
**rivulorum** H. Magn.  
**roseotincta** Coppins & Tønsberg  
**rubrocastanea** T. Sprib. & Printzen (Spribille & Printzen 2007)  
**sarcogynoides** Körber (McMullin & Lendemer 2013)  
**sauteri** Körber (Hertel & Printzen 2004)  
**scabridula** Hedl. nom. illeg. (Spribille & Björk 2008)  
**silacea** Ach.  
**somphoterella** Vainio  
**sphaerella** Hedl. = a species of *Lecania*? (Printzen 1995)  
**steineri** Hertel  
**strasseri** Zahlbr. (Spribille et al. 2010)  
**stratura** K. Knudsen & Lendemer (Knudsen et al. 2017)  
**subaglaea** B. de Lesd.  
**subcandida** H. Magn.  
**subfilamentosa** (Zahlbr.) Fryday (Fryday 2008)  
**subrhagadiella** Lynge  
**swartzioidea** Nyl.  
**syncarpa** Zahlbr. (McCune 1998b)  
**tenayucae** B. de Lesd.  
**tenuissima** Lynge  
**tessellata** Flörke  
**tessellata** var. **caesia** (Anzi) Arnold  
**theodori** Lynge  
**torquens** Müll. Arg. = a species of *Lecanora*? (Printzen 1995)  
**trapelioides** Printzen (Hertel & Printzen 2004)  
**truckeei** Herre  
**turgidula** Fr. Syn.: *Biatora turgidula*  
**umbonata** (Hepp) Mudd  
**uniformis** McCune (McCune et al. 2017)  
**varians** Ach. Syn.: *Biatora varians*, *Pyrrhospora varians* (Hertel & Printzen 2004), *Lecidea subtilis* (Lendemer & Harris 2014c)  
**versicolor** Schwein. (Printzen 1995)  
**virginiensis** Calk. & Nyl.  
**xanthococcoides** Zahlbr.  
**ablephora** Nyl. = *Ramonia ablephora*

acrocyanea (Th. Fr.) H. Magn. = *Lecidella patavina*  
 adirondackii H. Magn. = *Psilolechia clavulifera*  
 admiscens Nyl. = *Trapeliopsis glaucopholis*  
 aenea (Fr.) Nyl. = *Miriquidica garovaglio*  
 aeruginosa Borrer = *Trapeliopsis flexuosa*  
 aglaea Sommerf. = *Calvitimela aglaea*  
 aglaeida Nyl. = *Calvitimela aglaea*  
 ahlesii (Hepp) Nyl. (Harris 1995b) = *Bryobilimbia ahlesii*  
 ahlesii var. nemoralis (J. Lowe) Fryday & Coppins (Coppins & Fryday 2006b) = *Bryobilimbia ahlesii*  
 var. nemoralis  
 aitema Ach. = *Lecanora aitema*  
 alaiensis Vainio = *Lecidella patavina*  
 alaskensis Nyl. = *Herteliana alaskensis*  
 albidocinerella (Vainio) Vainio = *Lecidella effugiens*  
 albocaerulescens (Wulfen) Ach. = *Porpidia albocaerulescens*  
 albonigra H. Magn. = *Lecidella carpathica* (Coppins & Fryday 2006b)  
 albosuffusa Th. Fr. = *Farnoldia jurana*  
 aleutica Degel. = *Fuscidea aleutica*  
 amabilis B. de Lesd. = *Carbonea latypizodes*  
 amaurospoda (Anzi) Vainio = *Lecidea pullata*  
 "amylacea Ach. 1810" nom. illeg. Probably refers to *Lecanora marginata*  
 aniptiza Stirton = *Micarea denigrata*  
 anthracophila Nyl. = *Carbonicola anthracophila*  
 antoniensis H. Magn. = *L. hassei*  
 apochroeiza Nyl. = *Biatora subduplex*  
 arctica Sommerf. = *Frutidella caesioatra*  
 arctogena (Th. Fr.) H. Olivier = *Calvitimela testaceoatra*  
 arcuatula (Arnold) Nyl. = *Fuscidea recensa* var. *arcuatula*  
 armeniaca (DC.) Fr. = *Calvitimela armeniaca*  
 assimilata Nyl. = *Micarea assimilata*  
 assimilis (Körber) Th. Fr. = *Carbonea assimilis*  
 associata Th. Fr. = *Geltingia associata*  
 atrata (Ach.) Wahlenb. = *Tremolecia atrata*  
[atrobrunnea subsp. deplanaica Hertel & Leuckert \(Hertel & Leuckert 2011\) = \*L. deplanaica\* \(McCune et al. 2017\)](#)  
 atrobrunnea subsp. saxosa Hertel & Leuckert (Hertel & Printzen 2004) = *L. syncarpa* (McCune et al. 2014b)  
 atrobrunnea subsp. stictica Hertel & Leuckert (Hertel & Printzen 2004) = *L. protabacina* (McCune et al. 2014b)  
 atrofulva Sommerf. = *Miriquidica atrofulva*  
 atrofusca (Hepp) Mudd = *Bryobilimbia hypnorum*  
 atrolutescens Nyl. = *L. mannii*  
 atronivea Arnold = *Carbonea atronivea*  
 austrocalifornica Zahlbr. = *Carbonea latypizodes*  
 berengeriana (A. Massal.) Nyl. (Hertel & Printzen 2004) = *Mycobilimbia berengeriana*  
 botryosa (Fr.) Th. Fr. = *Hertelidea botryosa*  
 brandegei Tuck. = *Lecanora pringlei* subsp. *brandegei*  
 brouardii (B. de Lesd.) Zahlbr. = *Psorula rufonigra*  
 brujaeriana (D. Dietr.) Leighton = *Ainoa mooreana*, but a misidentification for North America  
 cadubriae (A. Massal.) Nyl. = *Lecanora cadubriae*  
 caeca J. Lowe = *Lambiella caeca*  
 caesioatra Schaerer = *Frutidella caesioatra*  
 caesiocoronata J. Lowe = *Lecidea olivascens* (Degelius 1957); belongs to *Lecanora* according to Printzen (1995)  
 calcivora (Ehrh.) Nyl. = *Clauzadea immersa*  
 carbonoida J. W. Thomson = *Immersaria carbonoida*

carpathica (Körber) Szatala = *Lecidella carpathica*  
 catalinaria Stizenb. = *Lecidella asema*  
 caudata Nyl. (Fink 1935) = *Ropalospora lugubris*  
 caulophylla (Tuck.) Zahlbr. = a *Lecanora* sp.  
 chalybeiza Nyl. = *Leimonis erratica*  
 cinereoatra Ach. = *Porpidia cinereoatra*  
 cinereorufa Schaerer = *Schaereria cinereorufa*  
 cinnabarina Sommerf. = *Ramboldia cinnabarina*  
 circumnigrata H. Magn. = *Miriquidica pulvinata*  
 circumnigrata var. reagens H. Magn. = *Miriquidica lulensis*  
 coarctata (Turner ex Sm.) Nyl. = *Trapelia coarctata*  
 colludens Nyl. = *Rhizocarpon hochstetteri*  
 columbiana H. Magn. = *L. tessellata*  
 columnata J. Lowe = *Cecidonia xenophana*  
 conferenda Nyl. = *Adelolecia kolaensis*  
 contigua Fr. = *Porpidia macrocarpa*  
 contigua var. convexella (Wainio) Fink (Claassen 1917) = *Porpidia macrocarpa*  
 coroniformis Kremp. = *Psora crenata*  
 crassipes (Th. Fr.) Nyl. = *Helocarpon crassipes*  
 crenata (Taylor) Stizenb. = *Psora crenata*  
 crustulata (Ach.) Sprengel = *Porpidia crustulata*  
 cuprea Sommerf. = *Biatora cuprea*  
 cyanea (Ach.) Rohl. = *L. tessellata*  
 cyanescens Lynge = *L. lapicida*  
 cyathoides (Ach.) Ach. = *Fuscidea cyathoides*, but a misidentification for North America  
 cyrtella Ach. = *Lecania cyrtella*  
 decipiens (Hedwig) Ach. = *Psora decipiens*  
 degelii H. Magn. = *Porpidia degelii* (Lendemer & Harris 2014c)  
 delincta Nyl. = *Bryobilimbia ahlesii* (Arup 2004, Fryday et al. 2014)  
 declinis Tuck. = *Catillaria nigroclavata* (Ekman 1996)  
 demissa (Rutstr.) Ach. = *Lecidoma demissum*  
 deustata Zahlbr. = *Miriquidica deusta*  
 diapiensiae Th. Fr. = *Bryobilimbia diapiensiae*  
 dicksonii auct. = *Tremolecia atrata*  
 dicksonii (Gmelin) Ach. = nomen dubium  
 dilutiuscula Nyl. = *Brianaria bauschiana*  
 diversa J. Lowe = *Porpidia contraponenda*  
 dolodes Nyl. = *Schaeraria dolodes*  
 efflorescens (Hedl.) Erichsen = *Biatora efflorescens*  
 elabens Fr. = *Ramboldia elabens*  
 elaeochroma (Ach.) Ach. = *Lecidella elaeochroma*  
 elata Schaerer = *Lecanora marginata*  
 elegantior H. Magn. = *Amygdalaria elegantior*  
 ementiens Nyl. = *Biatora ementiens* (Printzen 2014)  
 endolitheia Lynge = *Lecidella patavina*  
 enteroleuca auct. = *Lecidella* spp.  
 epiiodiza Nyl. = *Schaereria endocyanea*  
 epixanthoidiza Nyl. nom. rej. prop. = *Biatora efflorescens*  
 erratica Körber = *Leimonis erratica*  
 euphorea (Flörke) Nyl. = *Lecidella euphorea*  
 evansii H. Magn. = *Lecidella carpathica*  
 fissuriseda Poelt = *Mycobilimbia fissuriseda*  
 flavocaerulescens Hornem. = *Porpidia flavicunda*  
 flexuosa (Fr.) Nyl. = *Trapeliopsis flexuosa*  
 floridensis Nyl. = *Malmidea floridensis* (Cáceres et al. 2017)  
 friesii Ach. = *Xylopsora friesii*



furfuracea Pers. = *Phyllopsora furfuracea*  
 furfurosa Tuck. ex Nyl. = *Malmidea furfurosa*  
 furva J. Lowe = *Miriquidica plumbeoatra* (Coppins & Fryday 2006b)  
 furvella Nyl. ex Mudd = *Lambiella furvella*  
 fusca (Schaerer) Th. Fr. = *Bryobilimbia hypnorum*  
 fuscescens Sommerf. = *Lecanora fuscescens*  
 fuscoatrina Hertel & Leuckert (Hertel & Printzen 2004) = *L. cascadiensis* (Hutten et al. 2013)  
 fuscocinerea Nyl. = *Schaereria fuscocinerea*  
 fuscorubens (Nyl.) Nyl. (Fink 1935) = *Clauzadea monticola* (Scholz 2000)  
 garovaglioi Schaerer = *Miriquidica garovaglioi*  
 gelatinosa Flörke = *Trapeliopsis gelatinosa*  
 geophana Nyl. = *Steinia geophana*  
 glaucophaea Körber = *Porpidia rugosa* (Fryday 2005)  
 glaucopholis Nyl. = *Trapeliopsis glaucopholis*  
 glebulosa (Fr.) Clem. = *Trapeliopsis wallrothii*, but misidentifications for North America  
 globulosa Flörke = *Biatora globulosa*  
 globifera Ach. = *Psora globifera*  
 glomerulosa (DC.) Steudel = *Lecidella euphorea*  
 goniophila auct. = *Lecidella anomaloides*  
 granosa Tuck. = *Bacidia granosa* (Ekman 2014)  
 granulata H. Magn. = *Lecidella granulata*  
 granulosa (Hoffm.) Ach. = *Trapeliopsis granulosa*  
 granulosa var. phyllizans Zahlbr. = *Trapeliopsis glaucopholis*  
 gregaria G. Merr. = *Trapelia glebulosa*  
 grisella Flörke ex Schaerer = *L. fuscoatra*  
 griseoatra (Flotow) Schaerer (Fink 1935) = *Miriquidica griseoatra* (Santesson et al. 2004)  
 gyrodes H. Magn. = *Fuscidea recensa* var. *arcuatula*  
 gyalizella Nyl. = *Gyalecta gyalizella* (Baloch et al. 2013a)  
 gyrophoroides Sprengel (Fink 1935) Identity uncertain (Esslinger & Tucker 2009)  
 hebescens Nyl. = *Porpidia albocaerulescens* (Lendemer 2004a)  
 helvola (Körber) Th. Fr. = *Biatora helvola*  
 helvola var. longispora Degel. = *Biatora longispora*  
 heppii R. A. Anderson & W. A. Weber = *Lecidella wulfenii*  
 homalodes Nyl. = *L. tessellata* Flörke (Hertel 1991)  
 humilis J. Lowe = *Miriquidica plumbeoatra*  
 humosa (Hoffm.) Nyl. = *Placynthiella uliginosa*  
 hypnorum Lib. = *Bryobilimbia hypnorum*  
 hypocrita A. Massal. = *Farnoldia hypocrita*  
 hypopta Ach. = *Lecanora hypopta*  
 ictERICA (Mont.) Taylor = *Psora ictERICA*  
 impavida Th. Fr. = *Lambiella impavida*  
 instrata Nyl. = *Miriquidica instrata*  
 insularis Nyl. = *Lambiella insularis*  
 internectens Nyl. = *Biatora subduplex*  
 intrudens H. Magn. = *Carbonia intrudens* (Dillman et al. 2012)  
 intumescens (Flotow) Nyl. = *Lambiella insularis*  
 jurana Schaerer = *Farnoldia jurana*  
 kochiana Hepp = *Fuscidea kochiana*, but apparently a misidentification for N.A. (Fryday 2008)  
 kochiana var. subreagens H. Magn. = *Fuscidea scrupulosa*  
 lacus-crateris H. Magn. = *Lecidella stigmathea*  
 lapicida var. pantherina Ach. (Hertel & Andreev 2003) = *L. lactea* (Coppins 2002)  
 latypea auct. non Ach. = *Lecidella carpathica*  
 latypea Ach. = *L. plana*  
 latypiza Nyl. = *Lecidella carpathica*  
 lepidastra Tuck. = *Buellia lepidastra*  
 leptoboloides Nyl. = *L. laboriosa*

leucophaea (Flörke ex Rabenh.) Nyl. = Miriquidica leucophaea  
 leucophaeoides Nyl. = Miriquidica leucophaeoides  
 limborina (Nyl.) Lamy = Rimularia limborina  
 limitata auct. = Lecidella elaeochroma  
 limosa Ach. = Protomicarea limosa  
 lithospersa Zahlbr. = Farnoldia hypocrita  
 lopadioides (Th. Fr.) Grumann = Ainoa mooreana, but a misidentification for North America  
 lowensis H. Magn. = Fuscidea lowensis  
 lucida (Ach.) Ach. = Psilolechia lucida  
 lugubris Sommerf. = Ropalospora lugubris  
 lulensis (Hellbom) Stizenb. = Miriquidica lulensis  
 lurida (Ach.) DC. = Romjularia lurida  
 luridella Tuck. = Psora luridella  
 lynceola Th. Fr. = Micarea lynceola, but a misidentification for N. America (Coppins & Fryday 2006b)  
 lynceola auct. N. Am. = Brinaria bauschiana (Coppins & Fryday 2006b)  
 lyngiana Zahlbr. = Adelolecia pilati  
 macrocarpa (DC.) Steudel = Porpidia macrocarpa  
 macrocarpa var. trullisata (Arnold) Mig. = Porpidia zeoroides  
 mamillaria Tuck. (Mohr 1901) Apparent typographical error for L. mamillana  
 manni Tuck. (Esslinger & Tucker 2009) Orthographic variant of L. mannii  
 marciensis J. Lowe = Miriquidica pycnocarpa (Coppins & Fryday 2006b)  
 marginata Schaerer = Lecanora marginata  
 marylandensis H. Magn. = Miriquidica leucophaea (Coppins & Fryday 2006b)  
 medialis Tuck. ex Nyl. = Bacidia medialis (Ekman 1996)  
 meiocarpa Nyl. = Biatora meiocarpa  
 meiocarpa var. tacomensis Printzen & Tønsberg = Biatora meiocarpa var. tacomensis  
 melancheima Tuck. = Ramboldia elabens  
 melinodes (Körber) H. Magn. ex Lynge = Porpidia melinodes  
 micacea Körber = Lecidella stigmatea  
 michenerii (Tuck.) Identity uncertain (Esslinger & Tucker 2009)  
 minuta (Nyl.) Nyl. = Biatora meiocarpa  
 misella (Nyl.) Nyl. = Micarea misella  
 mollis (Wahlenb.) Nyl. = Fuscidea mollis  
 monticola Ach. = Clauzadea monticola  
 mundula Müll. Arg. = Lecanora oreinodes (Rambold 1989)  
 myriocarpella (G. Merr.) Zahlbr., nom. illeg., probable synonym of Lecidea enalla (Printzen 1995)  
 myriocarpoides Nyl. = L. plebeja  
 neglecta Nyl. (Fink 1935) = Lepraria neglecta  
 nemoralis J. Lowe = Bryobilimbia ahlesii var. nemoralis  
 nivalis Anzi = Farnoldia micropsis  
 novomexicana (B. de Lesd.) W. A. Weber ex R. A. Anderson = Psora nipponica  
 oblongula H. Magn. = Caloplaca oblongula  
 obtegens Th. Fr. = Trapelia obtegens  
 occidentalis Lynge = L. tessellata (Hertel 1991)  
 ochrococca Nyl. = Protoparmelia ochrococca  
 ochrophora Nyl. = Piccolia ochrophora  
 oligotropha J. R. Laundon = Placynthiella oligotropha  
 olivacea (Hoffm.) A. Massal. = Lecidella elaeochroma  
 oreinodes (Körber) W. A. Weber & Hertel = Lecanora oreinoides  
 ornata (Sommerf.) Hue = Trapelia glebulosa  
 orosthea (Ach.) Ach. = Lecanora orosthea  
 ostreata (Hoffm.) Schaerer = Hypocenomyce scalaris  
 \*oxyspora (Tul.) Nyl. = Phacopsis oxyspora  
 paddensis (Tuck.) Zahlbr. = Lecanora paddensis (McCune et al. 2014b)  
 pallida Th. Fr. = Pilophorus dovrensis  
 panaeola (Ach.) Ach. = Amygdalaria panaeola

pantherina (Ach.) Th. Fr. = *L. lactea*  
 parasema (Ach.) Ach. (Fink 1935) = *Lecidella elaeochroma* (Scholz 2000)  
 parasemella Nyl. = *Schaereria parasemella*  
 parvifolia Pers. = *Phyllopsora parvifolia*  
 "pelobotrion" = *Amygdalaria pelobotryon*  
 pelobotrya (Wahlenb.) Leighton = *Amygdalaria pelobotryon*  
 petri (Tuck.) Zahlbr. = *Romjularia lurida*  
 phaeophora Stizenb. = *Lecanora phaeophora*  
 phylliscina Nyl. = *Porpidia macrocarpa*  
 pilati (Hepp) Körber = *Adelolecia pilati*  
 placidensis H. Magn. = *Lecanora placidensis*  
 planetica Tuck. ex Willey = *Leimonis erratica*  
 platycarpa Ach. = *Porpidia macrocarpa*  
 plumbeoatra Vainio = *Miriquidica plumbeoatra*  
 polycarpa Flörke (Fink 1935) = *L. lapicida* (Santesson et al. 2004)  
 porphyrospoda (Anzi) Th. Fr. = *Myochroidea porphyrospoda*  
 praeruptorum Du Rietz & H. Magn. = *Fuscidea praeruptorum*  
 prasinula (Wedd.) B. de Lesd. = *Lecidella scabra*  
 pringlei Tuck. = *Lecanora pringlei*  
 pruinosa Ach. = *L. lithophila*  
 pulcherrima Vainio = *Anamylopsora pulcherrima*  
 pullata (Norman) Th. Fr. (Jørgensen et al. 2002) = *Frutidella pullata*  
 pullula (Tuck.) Zahlbr. = *Lecanora anopta*  
 punctella (Willey) Zahlbr. = *Micarea rhabdogena*  
 purissima Darb. = *Lecanora marginata*  
 pycnocarpa (Körber) Ohlert = *Miriquidica pycnocarpa*  
 quadricolor (Dickson) Borrer = *Trapeliopsis granulosa*  
 querneae (Dickson) Ach. = *Pyrrhospora querneae*  
 ramulicola H. Magn. = *Lecanora cadubriae*  
 recedens Nyl. = a non-lichenized fungus  
 recensa Stirton = *Fuscidea recensa*  
 rhaetica Hepp ex Th. Fr. = *Farnoldia micropsis*  
 rivulosa Ach. = *Fuscidea cyathoides*, but a misidentification for North America  
 rubiformis (Ach.) Wahlenb. = *Psora rubiformis*  
 rufofusca (Anzi) Nyl. = *Myochroidea rufofusca*  
 rufonigra (Tuck.) Nyl. = *Psorula rufonigra*  
 rugosa J. Lowe = *Schaereria cinereorufa* (Coppins & Fryday 2006b)  
 russellii Tuck. = *Psora russellii*  
 russula Ach. = *Ramboldia russula*  
 sanguineoatra sens. Nyl. = *Bryobilimbia hypnorum*  
 santae-monicae H. Magn. = *L. laboriosa* (Knudsen & Lendemer 2005a)  
 santensis Tuck. = *Phyllopsora santensis*  
 saxosa R. A. Anderson = *L. syncarpa* (Hertel 1995, Leuckert & Hertel 2003)  
 scabra Taylor = *Lecidella scabra*  
 scalaris (Ach. ex Lilj.) Ach. = *Hypocenomyce scalaris*  
 schizopeltica Hertel & Leuckert (Hertel & Printzen 2004, Hertel & Leuckert 2011) = *L. truckeei* (Lendemer & Knudsen 2007)  
 scholanderi Lynge = *Toninia tristis* subsp. *scholanderi*  
 scotopholis (Tuck.) Herre = *Miriquidica scotopholis*  
 scrobiculata Th. Fr. = *Lecanora scrobiculata* (Elix & Øvstedal 2004)  
 scrupulosa (Eckfeldt) H. Magn. = *Fuscidea scrupulosa*  
 shushanii J. W. Thomson = *Lecidea aglaeida* (Haugan & Timdal 1994) = *Calvitimela aglaea* (Hertel & Andreev 2003)  
 soledifera J. Lowe = *Porpidia macrocarpa* (Coppins & Fryday 2006b)  
 solediza Nyl. = *Porpidia tuberculosa*  
 soledizodes (Lamy ex Nyl.) Vainio = *Porpidia soledizodes*



speirea (Ach.) Ach. = *Porpidia speirea*  
 sphacelata Th. Fr. = *Lambiella sphacelata*  
 stenotera (Nyl.) Nyl. = *L. alpestris*  
 steriza (Ach.) Vainio = *Porpidia macrocarpa*  
 stigmathea Ach. = *Lecidella stigmathea*  
 subballinita Nyl. = *Micarea ternaria* (Nyl.) Vězda (Printzen 1995)  
 subauriculata B. de Lesd. non Lynge = *Lecidella* spp.  
 subauriculata Lynge non B. de Lesd. = *Adelolecia pilati*  
 subcinnabarina Tønsberg = *Pyrrhospora subcinnabarina*  
 subcontinuior B. de Lesd. = *Carbonea latypizodes*  
 subduplex (Nyl.) Nyl. = *Biatora subduplex*  
 suberratica J. Lowe = *Micarea erratica*  
 sublimosa Nyl. = *Megalaria jemtlandica*  
 subplebeia Nyl. = *Carbonea latypizodes*  
 subplebeja Vainio This name (a corticolous Brazilian taxon) was first added to the North American checklist in the 1960 Hale & Culberson version, apparently erroneously replacing *L. subplebeia* Nyl. (a saxicolous California taxon) which had been in the 1956 version.  
 subplumbea Anzi = (?) *Miriquidica griseoatra*  
 subramosa J. Lowe = *Toninia squalecens* (Coppins & Fryday 2006b)  
 subsimplex H. Magn. = *Porpidia subsimplex*  
 subsorediza Lynge = *Bellemerea subsorediza*  
 subtilis Degel. = *Lecidea varians* (Lendemer & Harris 2014c)  
 sulphurea (Hoffm.) Wahlenb. = *Lecanora sulphurea*  
 sylvana (Körber) Th. Fr. = *Biatoraa globulosa*  
 sylvicola Flotow = *Brianaria sylvicola*  
 symmicta (Ach.) Ach. = *Lecanora symmicta*  
 symmictella Nyl. (Spribille & Björk 2008) = *Puttea caesia* (Dillman et al. 2012)  
 templetonii Taylor = *Bryobilimbia hypnorum*  
 tenebrosa Flotow = *Schaereria fuscocinerea*  
 tennesseensis Nyl. = *Lecanora oreinoides*  
 tessellina Tuck. = *Lecanora oreinoides*  
 testacea (Hoffm.) Ach. = *Psora testacea* Not included in the North American flora.  
 texana W. A. Weber = *Xanthoporella texana*  
 tornoënsis Nyl. = *Japewia tornoënsis*  
 trochodes (Taylor ex Leighton) Crombie = *Rimularia limborina*  
 tuckeii Herre (Fink 1935) Apparent typographic error for *L. truckeei*  
 tumida A. Massal. = *Porpidia tuberculosa*  
 uliginosa (Schrader) Ach. = *Placynthiella uliginosa*  
 ultima Th. Fr. = *Cephalophysia leucospila*  
 umbonella Nyl. = *Cecidonia umbonella*  
 vacciniicola Tønsberg = *Biatora vacciniicola*  
 vernalis (L.) Ach. = *Biatora vernalis*  
 vernicoma Tuck. = *Buellia vernicoma*  
 violascens H. Magn. = *L. laboriosa* (Knudsen & Lendemer 2005a)  
 viridans (Flotow) Lamy = *Lecidella viridans*  
 viridescens (Schrader) Ach. = *Trapeliopsis viridescens*  
 \*vitellinaria Nyl. = *Carbonea vitellinaria*  
 vorticiosa (Flörke) Körber = *Carbonea vorticiosa*  
 vulgata Zahlbr. = *Lecidella stigmathea*  
 wallrothii Flörke ex Sprengel = *Trapeliopsis wallrothii*, but misidentifications for North America  
 washingtonensis H. Magn. = *L. cascadiensis*  
 wulfenii (Hepp) Arnold = *Lecidella wulfenii*  
 xanthococca Sommerf. = *Pycnora xanthococca*  
 ypocrita A. Massal. = *Farnoldia hypocrita*  
 zahlbruckneri Fink = *Lecidella latypiza* (Knoph & Leuckert 1994)

## **LECIDELLA** Körber

- anomaloides** (A. Massal.) Hertel & H. Kilius Syn.: *Lecidea goniophila* auct.  
**asema** (Nyl.) Knoph & Hertel Syn.: *Lecidea catalinaria*  
**bullata** Körber  
**carpathica** Körber Syns.: *Lecidea latypiza*, *L. carpathica*, *L. latypea* auct., *L. evansi*, *L. albonigra*  
**chiricahuana** Knoph & Leuckert (Knoph & Leuckert 2004)  
**dimelaenophila** Hertel  
**effugiens** (Nilson) Knoph & Hertel Syn.: *Lecidea albidocinerella*  
**elaeochroma** (Ach.) M. Choisy Syns.: *Lecidea elaeochroma*, *L. olivacea*, *L. limitata* auct.  
**enteroleucella** (Nyl.) Hertel  
**euphorea** (Flörke) Hertel Syns.: *Lecidea euphorea*, *L. glomerulosa*  
**flavosorediata** (Vězda) Hertel & Leuckert  
**granulata** (H. Magn.) R. C. Harris Syn.: *Lecidea granulata*  
**granulosula** (Nyl.) Knoph & Leuckert (Knoph & Leuckert 2004)  
**latypiza** (Nyl.) M. Choisy  
**laureri** (Hepp ex Th. Fr.) Körber (Goward et al. 1996)  
**meiococca** (Nyl.) Leuckert & Hertel  
**nashiana** Knoph & Leuckert (Knoph & Leuckert 2004)  
**patavina** (A. Massal.) Knoph & Leuckert Syns.: *Lecidea acrocyanea*, *L. alaiensis*, *L. endolitheia*  
**pulveracea** (Flörke ex Th. Fr.) P. Sydow (Laundon 2005)  
**scabra** (Taylor) Hertel & Leuckert Syns.: *Lecidea scabra*, *L. prasinula*  
**stigmatea** (Ach.) Hertel & Leuckert Syns.: *Bacidia arthoniza*, *Lecidea micacea*, *L. stigmatea*, *L. vulgata*, *L. lacus-crateris*  
[**Lecidea subauriculata** B. de Lesd. non Lynge]  
**subviridis** Tønsberg (Coppins & Fryday 2006b)  
**tumidula** (A. Massal.) Knoph & Leuckert (Knoph & Leuckert 2004)  
**viridans** (Flotow) Körber Syn.: *Lecidea viridans*  
**wulfenii** (Hepp) Körber Syns.: *Lecidea heppii*, *L. wulfenii*  
*alaiensis* (Vainio) Hertel = *L. patavina*  
*chodatii* (Samp.) Knoph & Leuckert = *L. granulosula*  
*elaeochromoides* (Nyl.) Knoph & Hertel = *L. asema*  
*enteroleuca* auct. = various *Lecidella* spp.  
*glomerulosa* (DC.) M. Choisy = *L. euphorea*  
*goniophila* auct. = *L. anomaloides*  
*inamoena* (Müll. Arg.) Hertel = *L. patavina*  
*incongruella* (Vainio) Hertel & Leuckert = *L. effugiens placidensis* (H. Magn.) R. C. Harris = *Lecanora placidensis* (Knoph & Leuckert 1994)  
*prasinula* (Wedd.) Hertel = *L. scabra*  
*pyncocarpa* Körber = *Miriquidica pyncocarpa*  
*spitsbergensis* (Lynge) Hertel & Leuckert = *L. patavina*  
*subincongrua* (Nyl.) Hertel & Leuckert var. *elaeochromoides* (Nyl.) Hertel & Leuckert = *L. asema*

## **LECIDOMA** Gotth. Schneider & Hertel

- demissum** (Rutstr.) Gotth. Schneider & Hertel Syns.: *Lecidea demissa*, *Lepidoma demissum*, *Psora demissa*

## **LECIOGRAPHA** A. Massal. = **OPEGRAPHA**

- \**glaucumaria* (Nyl.) H. Olivier = *Phacographa glaucumaria*  
\**glaucumarioidea* (Willey) Fink (Fink 1935) = *Dactylospora glaucumarioidea*  
\**inspersa* (Tul.) Rehm = possibly *Dactylospora parasitica*  
\**lamyi* (O. J. Rich. ex Nyl.) Sacc. & D. Sacc. = *Opegrapha lamyi*  
\**parasitica* A. Massal. = *Opegrapha rupestris*  
\**pertusariicola* (Willey ex Tuck.) Fink = *Dactylospora pertusariicola*  
\**urceolata* (Fr.) Körber = *Dactylospora urceolata*

## **LECIOPHYSMA** Th. Fr.

**finmarkicum** Th. Fr.  
**furfurascens** (Nyl.) Gyelnik  
**saximontana** (T. Sprib., P. M. Jørg. & M. Schultz) P. M. Jørg., Wedin & S. Ekman Syn.:  
Santessoniella saximontana (Ekman et al. 2014)

**LEIGHTONIOMYCES** D. Hawksw. & B. Sutton  
#**phillipsii** (Berk. & Leighton) D. Hawksw. & B. Sutton (McCune & Stone 2009)

**LEIMONIS** R. C. Harris (Harris 2009)  
**erratica** (Körber) R. C. Harris & Lendemer Syns.: Lecidea chalybeiformis, L. erratica, L. suberratica,  
Micarea erratica

**LEIODERMA** Nyl.  
**cherokeense** P. M. Jørg. (Jørgensen & Tønsberg 2005)  
**sorediatum** D. J. Galloway & P. M. Jørg.

**LEIORREUMA** Eschw.  
**erodens** F. Seavey & J. Seavey (Seavey et al. 2017)  
**exaltatum** (Mont. & Bosch) Staiger Syn.: Graphis diversa, Phaeographis exaltata (Staiger 2002)  
**explicans** (Fink) Lendemer Syn.: Phaeographina explicans (Lendemer & Knudsen 2008b)  
**patellulum** (Fée) Staiger Syn.: Phaeographis patellula (Esslinger & Tucker 2009)  
**sericeum** (Eschw.) Staiger Syn.: Phaeographis sericea (Staiger 2002)

**LEMMOPSIS** (Vainio) Zahlbr.  
**arnoldiana** (Hepp) Zahlbr. (Schultz 2002d)

**LEMPHOLEMMA** Körber  
**chalazanum** (Ach.) B. de Lesd. Syn.: Psorotichia segregata, Collemopsis segregata (Schultz 2007b)  
**cladodes** (Tuck.) Zahlbr.  
**intricatum** (Arnold) Zahlbr.  
**isidiodes** (Nyl. ex Arnold) H. Magn.  
**oblique-peltatum** (Eschw.) C. W. Dodge  
**polyanthes** (Bernh.) Malme Syn.: Collema myriococcum  
**radiatum** (Sommerf.) Henssen  
**umbella** (Tuck.) Zahlbr. Syn.: Omphalaria umbella  
**vesiculiferum** Henssen  
albonigrum H. Magn. = L. cladodes  
fennicum (Räsänen) Degel. (Goward 1999) = L. intricatum  
myriococcum (Ach.) Th. Fr. = L. polyanthes

**LEPIDOCOLLEMA** Vainio  
**marianum** (Fr.) P. M. Jørg. Syns.: Pannaria mariana, Parmeliella mariana (Ekman et al. 2014)  
Uncertain for North America (Jørgensen 2000c)  
**stylophorum** (Vainio) P. M. Jørg. Syns.: Pannaria stylophora, Parmeliella stylophorum (Ekman et al. 2014)

**LEPIDOMA** (Ach.) Gray  
demissum (Rutstr.) M. Choisy = Lecidoma demissum

**LEPRA** Scop. (Hafellner & Türk 2016, Lendemer & Harris 2017)  
**albescens** (Hudson) Hafellner Syns.: Pertusaria albescens, P. globulifera, P. scutellaris  
**amara** (Ach.) Hafellner Syns.: Pertusaria amara, Variolaria amara  
**andersoniae** (Lendemer) Lendemer & R. C. Harris Syn.: Pertusaria andersonii  
**commutata** (Müll. Arg.) Lendemer & R. C. Harris Syn.: Pertusaria commutata, P. copiosa  
**dactylina** (Ach.) Hafellner Syn.: Pertusaria dactylina  
**excludens** (Nyl.) Hafellner Syn.: Pertusaria excludens



**floridana** (Dibben) Lendemer & R. C. Harris Syn.: *Pertusaria floridana*  
**hypothamnolica** (Dibben) Lendemer & R. C. Harris Syn.: *Pertusaria hypothamnolica*  
**multipunctoides** (Dibben) Lendemer & R. C. Harris Syn.: *Pertusaria multipunctoides*, *Variolaria multipunctoides*  
**ophthalmiza** (Nyl.) Hafellner Syn.: *Pertusaria lecanina* subsp. *nigra*, *P. ophthalmiza*, *Variolaria ophthalmiza*  
**panyrga** (Ach.) Hafellner Syn.: *Pertusaria panyrga*  
**pustulata** (Brodo & W. Culb.) Lendemer & R. C. Harris Syn.: *Haematomma pustulatum*, *Loxospora pustulata*, *Variolaria pustulata*  
**subdactylina** (Nyl.) Lendemer & R. C. Harris Syn.: *Pertusaria subdactylina*  
**trachythallina** (Erichsen) Lendemer & R. C. Harris Syn.: *Pertusaria trachythallina*, *Variolaria trachythallina*  
**ventosa** (Malme) Lendemer & R. C. Harris Syn.: *Pertusaria ventosa*  
**waghornei** (Hulting) Lendemer & R. C. Harris Syn.: *Pertusaria waghornei*, *Variolaria waghornei*

#### LEPRARIA Ach.

**albicans** (Th. Fr.) Lendemer & Hodkinson Syn.: *Leprocaulon albicans*, *Stereocaulon albicans* (Lendemer & Hodkinson 2013)  
**arbuscula** (Nyl.) Lendemer & Hodkinson Syn.: *Leprocaulon arbuscula*, *Stereocaulon arbuscula* (Lendemer & Hodkinson 2013)  
**aurescens** Orange & Wolseley (Lendemer 2010a)  
**barbatica** Lendemer (Lendemer 2010a)  
**brodoi** Lendemer & Tønsberg (Lendemer & Tønsberg 2014)  
**caesiella** R. C. Harris (Lendemer 2005a)  
**cryophila** Lendemer (Lendemer 2010a)  
**diffusa** (J. R. Laundon) Kukwa Syn.: *Leproloma diffusum* (Kukwa 2002)  
**disjuncta** Lendemer (Lendemer 2010a)  
**eburnea** J. R. Laundon  
**elobata** Tønsberg (Tønsberg 1997)  
**finkii** (B. de Lesd.) R. C. Harris (Lendemer 2013b) Syn.: *Crocynia aliciae*, *C. americana*  
**friabilis** Lendemer, K. Knudsen & Elix (Lendemer et al. 2008b)  
**gracilescens** (Nyl.) Lendemer & Hodkinson Syn.: *Leprocaulon gracilescens* (Lendemer & Hodkinson 2013)  
**harrisiana** Lendemer (Lendemer 2012a)  
**hodkinsoniana** Lendemer (Lendemer 2011b)  
**humida** Slav.-Bayr. & Orange (Lendemer 2013a, 2013b)  
**jackii** Tønsberg (Kümmerling et al. 1995)  
**lanata** Tønsberg (Tønsberg 2007)  
**lecanorica** Tønsberg (Tønsberg 2004b)  
**leprolomopsis** Diederich & Sérus. (Lendemer 2013b)  
**membranacea** (Dickson) Vainio Syn.: *Leproloma membranaceum*, *Amphiloma lanuginosum* (Kukwa 2002)  
**neglecta** (Nyl.) Erichsen Syn.: *Crocynia neglecta*  
**nivalis** J. R. Laundon  
**normandinoides** Lendemer & R. C. Harris (Lendemer & Harris 2007)  
**oxybapha** Lendemer (Lendemer 2012b)  
**pacifica** Lendemer (Lendemer 2011b)  
**rigidula** (B. de Lesd.) Tønsberg  
**squamatica** Elix (Lendemer 2008)  
**subalbicans** (I. M. Lamb) Lendemer & Hodkinson Syn.: *Leprocaulon subalbicans*, *Stereocaulon subalbicans* (Lendemer & Hodkinson 2013)  
**torii** Pérez-Ortega & T. Sprib. (Pérez-Ortega & Spribille 2009a)  
**vouauxii** (Hue) R. C. Harris Syn.: *Leproloma vouauxii* (Kukwa 2002)  
**xanthonica** Lendemer (Lendemer 2010a)  
**xerophila** Tønsberg (Tønsberg 2004b)  
*adhaerens* K. Knudsen, Elix & Lendemer (Knudsen et al. 2007) = *Leprocaulon adhaerens*

aeruginosa auct. = misidentification for North America  
 aeruginosa (Weiss) Sm. = not a lichen-forming fungus  
 alpina (B. de Lesd.) Tretiach & Baruffo (Knudsen & Elix 2007a) = *L. neglecta* (Lendemer 2013a, 2013b)  
 arctica (Lynge) Wetmore = *L. vouauxii*  
 borealis Loht. & Tønsberg = *L. neglecta* (Lendemer 2013b)  
 cacuminum sensu J. R. Laundon = *L. neglecta* (Lendemer 2013a, 2013b)  
 cacuminum sensu Loht. = *L. neglecta* (Lendemer 2013a, 2013b)  
 caesioalba (B. de Lesd.) J. R. Laundon = *L. neglecta* (Lendemer 2013a, 2013b)  
 candelaris (L.) Fr. = *Chrysothrix candelaris*  
 chlorina (Ach.) Ach. = *Chrysothrix chlorina*  
 citrina (Schaerer) Rabenh. = *Chrysothrix candelaris*  
 crassissima (Hue) Lettau = misidentification for North America (Lendemer 2011b)  
 crassissima var. isidiata Llimona = misidentification for North America (Lendemer 2011b)  
 diffusa (J. R. Laundon) Kukwa var. chrysodetoides (J. R. Laundon) Kukwa = *L. diffusa* (Lendemer 2013a, 2013b)  
 flava (Schreber) Sm. = *Chrysothrix candelaris*  
 frigida J. R. Laundon = *L. eburnea* (Tønsberg 2004b)  
 gelida Tønsberg & Zhurb. (Kukwa & Zhurbenko 2010) = *Lepraria neglecta* (Lendemer 2013b)  
 incana (L.) Ach. = misidentification for North America (Lendemer 2011b)  
 lesdainii (Hue) R. C. Harris = *Botryolepraria lesdainii*  
 lobificans auct. N.A. non Nyl. = *L. finkii* (Lendemer 2013b)  
 moroziana Lendemer (Lendemer 2010a) = *Andreiomyces morozianus*  
 salazinica Tønsberg (Tønsberg 2007) = *L. elobata* (Lendemer 2013a, 2013b)  
 santamonicae K. Knudsen & Elix (Knudsen & Elix 2007b) = *Leprocaulon santamonicae*  
 terricola Lendemer (Lendemer 2010a) = *Leprocaulon terricola*  
 texta K. Knudsen, Elix & Lendemer (Knudsen & Elix 2007a) = *Leprocaulon textum*  
 zonata Brodo = *L. neglecta*

#### **LEPROCAULON** Nyl. ex Lamy

**adhaerens** (K. Knudsen, Elix & Lendemer) Lendemer & Hodkinson Syn.: *Lepraria adhaerens* (Lendemer & Hodkinson 2013)  
**americanum** Lendemer & Hodkinson (Lendemer & Hodkinson 2013)  
**knudsenii** Lendemer & Hodkinson (Lendemer & Hodkinson 2013)  
**santamonicae** (K. Knudsen & Elix) Lendemer & Hodkinson Syn.: *Lepraria santamonicae* (Lendemer & Hodkinson 2013)  
**terricola** (Lendemer) Lendemer & Hodkinson Syn.: *Lepraria terricola* (Lendemer & Hodkinson 2013)  
**textum** (K. Knudsen, Elix & Lendemer) Lendemer & Hodkinson Syn.: *Lepraria texta* (Lendemer & Hodkinson 2013)  
 albicans (Th. Fr.) Nyl. = *Lepraria albicans*  
 arbuscula (Nyl.) Nyl. = *Lepraria arbuscula*  
 gracilescens (Nyl.) I. M. Lamb & A. Ward = *Lepraria gracilescens*  
 microscopicum (Vill.) Gams ex D. Hawksw. = *L. quisquiliare*, but North American records are *L. americanum* (Lendemer & Hodkinson 2013)  
 pseudoarbuscula (Asahina) I. M. Lamb & A. Ward = *Lepraria subalbicans* for North American records  
 quisquiliare (Leers) M. Choisy = misidentification for North America  
 subalbicans (I. M. Lamb) I. M. Lamb & A. Ward = *Lepraria subalbicans*

#### **LEPROCOLLEMA** Vainio

**americanum** Vainio Apparently absent from N.A. north of Mexico (Schultz 2007a)

#### **LEPROLOMA** Nyl. ex Crombie = **LEPRARIA** (Kukwa 2002)

angardianum (Øvstedal) J. R. Laundon = *Lepraria neglecta*  
 cacuminum (A. Massal.) J. R. Laundon = *Lepraria neglecta*  
 diffusum J. R. Laundon var. diffusum = *Lepraria diffusa*  
 diffusum J. R. Laundon var. chrysodetoides J. R. Laundon (Goward et al. 1996) = *Lepraria diffusa*

membranaceum (Dickson) Vainio = Lepraria membranacea  
"membranaceum var. chrysodetoides" Removed as a typographical error here  
vouauxii (Hue) J. R. Laundon = Lepraria vouauxii

**LEPROPLACA** (Nyl.) Hue (Arup et al. 2013)

**cirrochroa** (Ach.) Arup, Frödén & Söchting Syn.: Caloplaca cirrochroa  
**chrysodeta** (Vainio) J. R. Laundon ex Ahti Syn.: Caloplaca chrysodeta  
**obliterans** (Nyl.) Arup, Frödén & Söchting Syn.: Caloplaca obliterans

**LEPTOCHIDIUM** M. Choisy

**albociliatum** (Desm.) M. Choisy Syns.: Polychidium albociliatum, Leptogium albociliatum, L.  
pilosellum  
**crenatulum** (Nyl.) P. M. Jørg. (Jørgensen 2006)

**LEPTOGIDIUM** Nyl. (Muggia et al. 2011)

**contortum** (Henssen) T. Sprib. & Muggia (Muggia et al. 2011)  
**dendriscum** (Nyl.) Nyl. Syn.: Polychidium dendriscum  
intricatum Nyl. = Dendriscocaulon intricatum

**LEPTOGIUM** (Ach.) Gray

**acadiense** J. W. Hinds, F. L. Anderson & Lendemer (Stone et al. 2016)  
**adpressum** Nyl.  
**arcticum** P. M. Jørg.  
**arsenei** Sierk  
**austroamericanum** (Malme) C. W. Dodge  
**azureum** (Sw. ex Ach.) Mont.  
**brebissonii** Mont.  
**burgessii** (L.) Mont.  
**byssinum** (Hoffm.) Zwackh ex Nyl.  
**chloromelum** (Ach.) Nyl.  
**compactum** D. F. Stone, F. L. Anderson & J. W. Hinds (Stone et al. 2016)  
**cookii** D. F. Stone & Lendemer (Stone et al. 2016)  
**coralloideum** (Meyen & Flotow) Vainio (Jørgensen & Nash 2004) Syn.: Parmelia coralloideum  
**corticola** (Taylor) Tuck.  
**crenatulum** (Nyl.) Vainio  
**cyanescens** (Rabenh.) Körber  
**digitatum** (A. Massal.) Zahlbr.  
**floridanum** Sierk  
**fusisporum** (Tuck.) C. W. Dodge  
**hibernicum** M. E. Mitch. ex P. M. Jørg. (Nealy & Anderson 2010)  
**hirsutum** Sierk  
**hypotrachynum** Müll. Arg.  
**insigne** P. M. Jørg. & Tønsberg (Jørgensen & Tønsberg 2010)  
**isidiosellum** (Riddle) Sierk  
**joergensenii** Marcelli & Kitaura (Kitaura et al. 2015)  
**juressianum** Tav. (Lendemer et al. 2008c)  
**laceroides** B. de Lesd.  
**marginellum** (Sw.) Gray  
**microstictum** Vainio  
**milligranum** Sierk  
**nanum** Herre (McCune & Rosentreter 2007)  
**papillosum** (B. de Lesd.) C. W. Dodge (Jørgensen & Nash 2004)  
**phyllocarpum** (Pers.) Mont.  
**pseudofurfuraceum** P. M. Jørg. & Wallace (Jørgensen 1997)  
**resupinans** Nyl. (Jørgensen & Nash 2004)  
**rivulare** (Ach.) Mont.



**rugosum** Sierk  
**saturninum** (Dickson) Nyl.  
**sessile** Vainio  
**stipitatum** Vainio  
albociliatum Desm. = *Leptochidium albociliatum*  
americanum Degel. = *L. laceroides*  
amphineum Ach. ex Nyl. = *L. byssinum*  
apalachense (Tuck.) Nyl. = *Scytinium apalachense* (Otálora et al. 2014)  
aquale (Arnold) P. M. Jørg. (Jørgensen & Tønsberg 1999) = *Scytinium aquale* (Otálora et al. 2014)  
aragonii Otálora (Otálora et al. 2008) = *Scytinium aragonii* (Otálora et al. 2014)  
arizonicum Zahlbr. = *Scytinium juniperinum*  
biatorinum (Nyl.) Leighton (Jørgensen & Tønsberg 1999) = *L. nanum*, for North American report (McCune & Rosentreter 2007)  
bullatum (Sw. in Ach.) Nyl. (Fink 1935) Probable misidentification for North America (Esslinger & Tucker 2009)  
burnetiae C. W. Dodge Misidentifications for North America (Stone et al. 2016)  
burnetiae C. W. Dodge var. *hirsutum* (Sierk) P. M. Jørg. = *L. hirsutum*  
caesiellum Tuck. = *L. byssinum*  
caesium (Ach.) Vainio = *L. cyanescens*  
californicum Tuck. = *Scytinium californicum* (Otálora et al. 2014)  
cellulosum P. M. Jørg. & Tønsberg (Jørgensen & Tønsberg 1999) = *Scytinium cellulosum* (Otálora et al. 2014)  
contortum Sierk = *Scytinium contortum* (Otálora et al. 2014)  
corniculatum (Hoffm.) Minks = *Scytinium palmatum* (Otálora et al. 2014)  
crenatellum (Nyl.) Tuck. = *L. rivulare*  
dactylinum Tuck. = *Scytinium dactylinum* (Otálora et al. 2014)  
denticulatum Nyl. = misidentification for North America (Kitaura et al. 2015)  
denticulatum sensu Sierk (1964) = *L. joergensenii* (Kitaura et al. 2015)  
erectum Sierk = *Scytinium erectum* (Otálora et al. 2014)  
fragile (Tayl.) Nyl (Fink 1935) = *Scytinium fragile* Taylor, but a likely misidentification for North America (Degelius 1954)  
furfuraceum (Harm.) Sierk = *L. pseudofurfuraceum* (for North American reports; Jørgensen 1997)  
gelatinosum (With.) J. R. Laundon = *Scytinium gelatinosum* (Otálora et al. 2014)  
hildenbrandii (Garov.) Nyl. = a European species, a misidentification for North America (Sierk 1964)  
imbricatum P. M. Jørg. = *Scytinium imbricatum* (Otálora et al. 2014)  
inflexum Nyl. = *L. burgessii* (fide Jørgensen)  
intermedium (Arnold) Arnold = *Scytinium intermedium* (Otálora et al. 2014)  
intricatulum Nyl. (Fink 1935) = *Scytinium teretiusculum* (Sierk 1964)  
juniperinum Tuck. = *Scytinium juniperinum* (Otálora et al. 2014)  
lacerum (Sw.) Gray = *Scytinium lichenoides*  
lichenoides (L.) Zahlbr. = *Scytinium lichenoides* (Otálora et al. 2014)  
lividofuscum (Florke ex Schlecht.) Flotow = *Scytinium tenuissimum*  
microdium (Nyl.) Zahlbr. = *Scytinium plicatile* (Sierk 1964)  
minutissimum (Flörke) Fr. = *Scytinium subtile*  
minutissimum auct. = *Scytinium intermedium*  
musciola (Sw.) Fr. = *Polychidium musciola*  
palmatum (Hudson) Mont. (Hoffman & Hafellner 2000; Santesson et al. 2004) = *Scytinium palmatum* (Otálora et al. 2014)  
papillosum (B. de Lesd.) C. W. Dodge North American reports refer to *L. pseudofurfuraceum*  
parculum Nyl. = *Scytinium parculum* (Otálora et al. 2014)  
perminutum Hedr. = *Scytinium subtile*  
pilosellum G. Merr. = *Leptochidium albociliatum*  
platynum (Tuck.) Herre = *Scytinium platynum* (Otálora et al. 2014)  
plectenchymum Fink = *Scytinium juniperinum*  
plicatile (Ach.) Leighton = *Scytinium plicatile* (Otálora et al. 2014)  
polycarpum P. M. Jørg. & Goward = *Scytinium polycarpum* (Otálora et al. 2014)

pulchellum (Ach.) Nyl. = Collema pulchellum  
 pulvillus Tuck. (Fink 1935) Possible synonym of Scytinium lichenoides (Sierk 1964)  
 rhyarodes Nyl. (Fink 1935) = Scytinium callopismum  
 rivale Tuck. = Scytinium rivale (Otálora et al. 2014)  
 schraderi (Bernh.) Nyl. = Scytinium schraderi (Otálora et al. 2014)  
 scotinum (Ach.) Fr. = Scytinium gelatinosum (Santesson et al. 2004)  
 sinuatum (Hudson) A. Massal. = Scytinium gelatinosum  
 siskiyouensis D. F. Stone & Ruchty (Stone & Ruchty 2008) = Scytinium siskiyouensis (Otálora et al. 2014)  
 subaridum P. M. Jørg. & Goward = Scytinium subaridum (Otálora et al. 2014)  
 subtile (Schrader) Torss. = Scytinium subtile (Otálora et al. 2014)  
 tacomae P. M. Jørg. & Tønsberg (Jørgensen & Tønsberg 1999) = Scytinium tacomae (McCune et al. 2014b)  
 tenuissimum (Dickson) Körber = Scytinium tenuissimum (Otálora et al. 2014)  
 teretiusculum (Wallr.) Arnold = Scytinium teretiusculum (Otálora et al. 2014)  
 tremelloides auct. = L. cyanescens  
 turgidum (Ach.) Crombie (McCune & Rosentreter 2007) = Scytinium turgidum (Otálora et al. 2014)

#### **LEPTORHAPHIS** Körber

**atomaria** (Ach.) Szatala  
 #**contorta** Degel.  
 #**epidermidis** (Ach.) Th. Fr.  
**lucida** Körber  
 +**parameca** (A. Massal.) Körber  
 quercus (Beltr.) Körber = identity uncertain

#### **LEPTOSPHAERULINA** McAlpine

\***peltigerae** (Fuckel) Riedel

#### **LEPTOTREMA** Mont. & Bosch (Frisch 2006)

auerianum (Mont.) Fink = Stegobolus auerianus  
 glaucescens (Nyl.) Müll. Arg. = Leucodecton glaucescens  
 heterosporum (C. Knight ex F. M. Bailey) Zahlbr. = Thelotrema santense  
 laeviusculum (Nyl.) Zahlbr. = [Ocellularia laeviusculum](#)  
 lepadodes (Tuck.) Zahlbr. = Thelotrema monosporum  
 monosporum (Nyl.) Müll. Arg. = Thelotrema monosporum  
 obturascens (Nyl.) Hale = Ocellularia bahiana  
 polycarpum Müll. Arg. = Leucodecton subcompunctum  
 ravenelii (Tuck.) Fink = Sanguinotrema wightii  
 reclusum (Kremp.) Zahlbr. = [Leucodecton compunctellum](#)  
 santense (Tuck.) Zahlbr. = Reimnitzia santensis  
 wightii (Taylor) Müll. Arg. (Frisch 2006) = Sanguinotrema wightii (Lücking et al. 2015)

#### **LETHARIA** (Th. Fr.) Zahlbr.

**columbiana** (Nutt.) J. W. Thomson  
**gracilis** Kroken ex McCune & Altermann (McCune & Altermann 2009)  
**lupina** Altermann, Leavitt & Goward (Altermann et al. 2016)  
**vulpina** (L.) Hue Syn.: Evernia vulpina  
 californica (Lév.) Hue = L. columbiana  
 vulpina (L.) Hue f. californica (Lév.) W. A. Weber = L. columbiana

#### **LETHARIICOLA** Grumann = SPHAEROPEZIA (Baloch et al. 2013b)

\***cucularis** (Norman) Lumbsch & D. Hawksw. = Sphaeropezia cucularis  
 \***sipei** Grumann = Sphaeropezia sipei

#### **LETROUTIA** Hafellner & Bellem.

**domingensis** (Pers.) Hafellner & Bellem. Syns.: *Bombyliospora domingensis*, *Lopadium domingense*, *Heterothecium domingense*  
**parabola** (Nyl.) R. Sant. & Hafellner  
**vulpina** (Tuck.) Hafellner & Bellem. Syns.: *Lopadium vulpinum*, *Bombyliospora vulpina*

**LETTAUIA** D. Hawksw. & R. Sant.

\***santessonii** Ihlen & Tønsberg (Ihlen & Tønsberg 1996)  
\***cladoniicola** D. Hawksw. & R. Sant. (Esslinger & Egan 1995) = *Cryptodiscus cladoniicola*

**LEUCOCARPIA** Vězda

**biatorella** (Arnold) Vězda (Buck & Harris 2001)  
**dictyospora** (Orange) R. Sant. (Alstrup 2004)

**LEUCODECTON** Massal. (Frisch 2006)

**compunctellum** (Nyl.) Frisch (Lücking et al. 2011b) Syns.: *Leptotrema reclusum*, *Myriotrema reclusum*  
**compunctum** (Ach.) A. Massal. (Seavey et al. 2017)  
**fissurinum** (Hale) A. Frisch (Seavey et al. 2017)  
**glaucescens** (Nyl.) A. Frisch Syns: *Leptotrema glaucescens*, *Myriotrema glaucescens*, *Thelotrema glaucescens* (Frisch 2006)  
**occultum** (Eschw.) A. Frisch Syn: *Myriotrema compunctum* (Frisch 2006)  
**phaeosporum** (Nyl.) Rivas Plata & Lücking (Seavey et al. 2014)  
**subcompunctum** (Nyl.) A. Frisch Syns: *Leptotrema polycarpum* (Frisch 2006), *Myriotrema subcompunctum*  
**willei** (Nyl.) R. C. Harris Syn.: *Phlyctis willei* (Lendemer & Harris 2014d)

**LEUCOGYROPHANA** Pouzar

\***lichenicola** Thorn, Malloch & Ginns (Thorn et al. 1998)

**LICHENOBARYA** Etayo, Diederich & Lawrey (Lawrey et al. 2015)

\***usneae** (Etayo) Etayo, Diederich & Lawrey (Lawrey et al. 2015)

**LICHENOCHORA** Hafellner

\***arctica** Zhurb. (Zhurbenko 2013)  
\***galligena** R. Sant. & Hafellner (Diederich 2003)  
\***haematommatus** R. C. Harris & Lendemer (Lendemer et al. 2016c)  
\***lepidiotae** (Anzi) Etayo & Nav.-Ros. (Zhurbenko 2013)  
\***obscurioides** (Lindsay) Triebel & Rambold (Hoffmann & Hafellner 2000)  
\***rinodinae** Zhurb. (Zhurbenko 2013)  
\***verrucicola** (Wedd.) Nik. Hoffm. & Hafellner (Hoffmann & Hafellner 2000)  
\***weillii** (Werner) Hafellner & R. Sant.  
\***xanthoriae** Triebel & Rambold  
\***thallina** (Cooke) Hafellner = *L. obscurioides*

**LICHENOCONIUM** Petrak & H. Sydow

\***cargillianum** (Lindsay) D. Hawksw. (Diederich 2003)  
\***christiansenii** M. S. Cole & D. Hawksw. (Cole & Hawksworth 2004)  
\***edgewoodensis** Alstrup & M. S. Cole (Alstrup & Cole 1998)  
\***erodens** M. S. Christ. & D. Hawksw.  
\***follmannii** Kondratyuk & Galloway (Kondratyuk & Galloway 1995)  
\***laevisporum** Kalb & Hafellner (Kalb et al. 1995)  
\***lecanorae** (Jaap) D. Hawksw.  
\***lichenicola** (P. Karsten) Petrak & H. Sydow (Etayo et al. 2007)  
\***pyxidatae** (Oudem.) Petrak & H. Sydow  
\***usneae** (Anzi) D. Hawksw.  
\***xanthoriae** M. S. Christ.



**LICHENODIPLIS** Dyko & D. Hawksw.

- \***dendrographae** Diederich & van den Boom (Diederich 2003)
- \***lecanorae** (Vouaux) Dyko & D. Hawksw.
- \***lecanoricola** (M. S. Cole & Hawksw.) Diederich Syn.: *Laeviomyces lecanoricola* (Diederich 2003)
- \***lichenicola** Dyko & D. Hawksw.
- \***rinodinicola** Kocourk. & K. Knudsen (Knudsen & Kocourková 2009b)
- \***pertusariicola** (Nyl.) Diederich Erroneously listed here (Diederich 2003)

**LICHENOMPHALIA** Redhead, Lutzoni, Moncalvo & Vilgalys (Redhead et al. 2002)

- alpina** (Britzelm.) Redhead, Lutzoni, Moncalvo & Vilgalys Syns.: *Omphalina alpina*, *O. luteovitellina*, *Phytoconis luteovitellina*, *Botrydina luteovitellina* (Redhead et al. 2002)
- hudsoniana** (H. S. Jenn.) Redhead, Lutzoni, Moncalvo & Vilgalys Syns.: *Omphalina hudsoniana*, *Botrydina viridis*, *Coriscium viride*, *Phytoconis viridis* (Redhead et al. 2002)
- oreades** (Singer) Voith, Thorn & I. Saar (Lücking et al. 2017b)
- umbellifera** (L. : Fr.) Redhead, Lutzoni, Moncalvo & Vilgalys Syns.: *Omphalina umbellifera*, *O. ericetorum*, *Phytoconis ericetorum*, *Botrydina botryoides*, *B. vulgaris* (Redhead et al. 2002)
- velutina** (Quél.) Redhead, Lutzoni, Moncalvo & Vilgalys Syns.: *Omphalina velutina*, *Phytoconis velutina*, *Botrydina velutina* (Redhead et al. 2002)

**LICHENOPELTELLA** Höhn.

- \***arctomiae** Pérez-Ortega & T. Sprib. (Pérez-Ortega & Spribille 2009b)
- \***biatorae** Pérez-Ortega & T. Sprib. (Pérez-Ortega & Spribille 2009b)
- \***cladoniarum** E. S. Hansen & Alstrup (Zhurbenko & Pino-Bodas 2017)
- \***heterodermiicola** M. S. Cole & D. Hawksw. (Cole & Hawksworth 2002)
- \***leprosulae** Pérez-Ortega & T. Sprib. (Pérez-Ortega & Spribille 2009b)
- \***peltigericola** (D. Hawksw.) R. Sant. (Alstrup & Cole 1998)
- \***santessonii** (P. M. Kirk & Spooner) R. Sant. (Alstrup & Cole 1998)
- \***stereocaulorum** Zhurb. (Zhurbenko 2010)
- \***thamnoliae** R. Sant. Erroneously listed here; reported only from South America (Diederich 2003)

**LICHENOPUCCINIA** D. Hawksw. & Hafellner

- \***poeltii** D. Hawksw. & Hafellner (Diederich 2003)

**LICHENOSTICTA** Zopf

- \***alcicornaria** (Lindsay) D. Hawksw.

**LICHENOSTIGMA** Hafellner

- \***alpinum** (R. Sant., Alstrup & D. Hawksw.) Ertz & Diederich Syn.: *Phaeosporobolus alpinus* (Ertz et al. 2014)
- \***ampla** Calat. & Hafellner (Kocourková & Knudsen 2008)
- \***anatolica** Halici & Kocakaya (Lendemer et al. 2009b)
- \***bolacinae** Nav.-Ros., Calat. & Hafellner (Kocourková & Knudsen 2008)
- \***chlaroterae** (F. Berger & Brackel) Ertz & Diederich (Ertz et al. 2014)
- \***cosmopolites** Hafellner & Calatayud (Hafellner & Calatayud 1999)
- \***dimelaenae** Calat. & Hafellner (Calatayud et al. 2004)
- \***elongata** Nav.-Ros. & Hafellner (Navarro-Rosines & Hafellner 1996)
- \***fellhanerae** (R. C. Harris & Lendemer) Ertz & Diederich Syn.: *Phaeosporobolus fellhanerae* (Ertz et al. 2014)
- \***maureri** Hafellner (Esslinger & Egan 1995) Syns: *Abrothallus usneae* auct. non Rabenh., *Phaeosporobolus usneae* (Ertz et al. 2014)
- \***radicans** Calatayud & Barreno (Knudsen & Kocourková 2008)
- \***rugosa** Thor
- \***saxicola** K. Knudsen & Kocourk. (Knudsen & Kocourková 2010d)
- \***semiimmersa** Hafellner (Hafellner 1999)
- \***subradians** Hafellner, Calatayud & Nav.-Ros. (Calatayud et al. 2002)

**LICHENOTHELIA** D. Hawksw.

- #**arida** Muggia, Kocourk. & K. Knudsen (Muggia et al. 2015)
- #**calcareea** Henssen
- #**convexa** Henssen
- #**intermixta** Henssen
- #**metzleri** (J. Lahm) D. Hawksw. Syn.: *Microthelia metzleri*
- #**renobalesiana** D. Hawksw. & V. Atienza (Kocourková & Knudsen 2009d)
- #**scopularia** (Nyl.) D. Hawksw. Syns.: *Microthelia aterrima*, *Rinodina aterrima*
- #**tenuissima** Henssen
- #**umbrophila** Muggia, Kocourk. & K. Knudsen (Muggia et al. 2015)

**LICHENOTHRIX** Henssen = **PYRENOTHRIX**

- riddlei** Henssen = *Pyrenothrix nigra*

**LICHINA** C. Agardh

- confinis** (O. F. Müller) C. Agardh
- willei** (Tuck.) Henssen

**LICHINELLA** Nyl.

- americana** Henssen
- cribellifera** (Nyl.) P. P. Moreno & Egea Syn.: *Gonohymenia cribellifera*, *Rechingeria cribellifera*
- flexa** Henssen, Büdel & T. H. Nash (Schultz 2005)
- granulosa** M. Schultz (Schultz 2005)
- intermedia** Henssen (Schultz 2005)
- iodopulchra** (Croz.) P. P. Moreno & Egea (Schultz 2005)
- melamphylla** (Tuck.) Essl. Syns.: *Gonohymenia melamphylla*, *Pannaria melamphylla*
- minnesotensis** (Fink) Essl. Syns.: *Forsellia minnesotensis*, *Gonohymenia minnesotensis*
- myriospora** (Zahlbr.) P. P. Moreno & Egea (Schultz 2005)
- nigritella** (Lettau) P. P. Moreno & Egea Syn.: *Gonohymenia nigritella*, *Thyrea nigritella*
- robustoides** Henssen, Büdel & T.H. Nash (Schultz 2005)
- sinaica** (Marton & Galun) P. P. Moreno & Egea (Schultz 2005)
- stipatula** Nyl.

**LICHINODIUM** Nyl.

- ahlneri** Henssen (Spribille et al. 2010)
- canadense** Henssen
- saxicola** Henssen
- sirosiphoideum** Nyl.

**LIGNOSCRIPTA** B. D. Ryan

- atroalba** B. D. Ryan & T. H. Nash (Ryan 2004a)

**LITHOGRAPHIA** Nyl.

- tesserata** (DC.) Nyl.

**LITHOTHELIUM** Müll. Arg.

- hyalosporum** (Nyl.) Aptroot Syn.: *Arthopyrenia hyalospora*, *Plagiocarpa hyalospora*, *Pleurotrema solivagum*
- illotum** (Nyl.) Aptroot Syn.: *Plagiocarpa illota*, *P. langloisii*
- macrosporum** (R. C. Harris) Aptroot Syn.: *Plagiocarpa macrospora*
- microsporum** R. C. Harris (Harris 1995a)
- phaeosporum** (R. C. Harris) Aptroot Syn.: *Plagiocarpa phaeosporum*
- septemseptatum** (R. C. Harris) Aptroot Syn.: *Plagiocarpa septemseptata*

**LLIMONAEA** Egea & Torrente

californica (Tuck.) Sparrius (Sparrius 2004b) = Schizopelte crustosa (Ertz & Tehler 2011)  
cerebriformis (Egea & Torrente) Sparrius (Sparrius 2004b) = Sparria cerebriformis (Ertz & Tehler 2011)

#### **LLIMONIELLA** Hafellner & Nav.-Ros.

- \***acarosporicola** (Kocourk. & K. Knudsen) Diederich & Ertz Syn.: Gelatinopsis acarosporicola (Diederich et al. 2010)
- \***catapyrenii** Zhurb., Kukwa & Flakus (Zhurbenko 2013)
- \***cinnabarinae** Pérez-Ortega, Etayo & T. Sprib. (Pérez-Ortega et al. 2011)
- \***pertusariae** Diederich & Etayo (Diederich & Etayo 2000)
- \***phaeophysciae** Diederich, Ertz & Etayo (Diederich et al. 2010)
- \***pyrenulae** Diederich & Etayo (Diederich & Etayo 2000)
- \*neglecta (Vainio) Triebel & Rambold = Rhymbocarpus neglectus

#### **LOBARIA** (Schreber) Hoffm.

- amplissima** (Scop.) Forssell (Tønsberg & Goward 2001) Syn.: Sticta amplissima, S. glomulifera
- anomala** (Brodo & Ahti) T. Sprib. & McCune Syns.: Anomalobaria anomala, Pseudocyphellaria anomala (McCune et al. 2014b)
- anthraspis** (Ach.) T. Sprib. & McCune Syns.: Anomalobaria anthraspis, Pseudocyphellaria anthraspis, Sticta anthraspis (McCune et al. 2014b)
- hallii** (Tuck.) Zahlbr. Syn.: Sticta hallii
- kurokawae** Yoshim.
- linita** (Ach.) Rabenh. Syn.: Sticta linita
- oregana** (Tuck.) Müll. Arg. Syn.: Sticta oregana
- pseudopulmonaria** Gyelnik
- pulmonaria** (L.) Hoffm. Syn.: Sticta pulmonaria
- quercizans** Michaux Syn.: Sticta quercizans
- ravenelii** (Tuck.) Yoshim. Syn.: Sticta erosa
- retigera** (Bory) Trevisan
- scrobiculata** (Scop.) DC. Syn.: Sticta verrucosa
- silvae-veteris** (Goward & Goffinet) Goward & Goffinet Syn.: Nephroma silvae-veteris (Goffinet & Goward 1998)
- tenuis** Vainio
- erosa (Eschw.) Nyl. = L. ravenelii
- isidiosa (Müll. Arg.) Vainio Not in North America.
- laetevirens (Lightf.) Zahlbr. = L. virens (With.) J. R. Laundon, but not known from North America
- lobulifera B. J. Moore = L. tenuis
- verrucosa (Hudson) Hoffm. = L. scrobiculata

#### **LOBOTHALLIA** (Clauzade & Cl. Roux) Hafellner

- alphoplaca** (Wahlenb.) Hafellner Syns.: Aspicilia alphoplaca, Lecanora alphoplaca, Lecanora thamnoplaca
- melanaspis** (Ach.) Hafellner Syn.: Aspicilia melanaspis, Lecanora melanaspis
- praeradiosa** (Nyl.) Hafellner Syn.: Aspicilia praeradiosa, Lecanora praeradiosa
- radiosa** (Hoffm.) Hafellner Syn.: Aspicilia radiosa, Lecanora radiosa, L. circinata

#### **LOPADIOPSIS** Vainio = **GYALECTIDIUM**

- floridana Zahlbr. = Asterothyrium rotuliforme

#### **LOPADIUM** Körber

- augustini** (Tuck.) Zahlbr.
- coralloideum** (Nyl.) Lyngé
- disciforme** (Flotow) Kullhem
- dodgei** Herre
- pezizoideum** (Ach.) Körber
- alpinum (Körber) R. Sant. = Schadonia alpina



domingense (Pers.) Fink = *Letroitia domingensis*  
fecundum Th. Fr. = *Schadonia fecunda*  
fuscum Müll. Arg. = *Calopadia fusca*  
fuscoluteum (Dickson) Mudd = *Brigantiaea fuscolutea*  
gemellum (Anzi) Stizenb. = *Schadonia alpina*  
leucoxanthum (Sprengel) Zahlbr. = *Brigantiaea leucoxantha*  
puiggarii (Müll. Arg.) Zahlbr. = *Calopadia puiggarii*  
phyllocharis (Mont.) Fink = *Tapellaria epiphylla*  
vulpinum (Tuck.) Zahlbr. = *Letroitia vulpina*

LOPEZARIA Kalb & Hafellner (Kalb 1990) = MEGALARIA Hafellner (Fryday & Lendemer 2010)  
versicolor (Fée) Kalb & Hafellner (Kalb 1990) = *Megalaria versicolor*

**LOXOSPORA** A. Massal.

**assateaguensis** Lendemer (Lendemer 2013c)  
**cismonica** (Beltr.) Hafellner Syn.: *Haematomma cismonicum*  
**confusa** Lendemer (Lendemer 2013c)  
**elatina** (Ach.) A. Massal. Syn.: *Haematomma elatinum*  
**ochrophaea** (Tuck.) R. C. Harris Syn.: *Haematomma ochrophaeum*  
pustulata (Brodo & W. L. Culb.) R. C. Harris = [Lepra pustulata](#)

**LOXOSPOROPSIS** Henssen

**corallifera** Brodo, Henssen & Imshaug

**MACENTINA** Vězda

dictyospora Orange (Will-Wolf 1998) = *Psoroglaena dictyospora* (Harada 2003)

**MALCOLMIELLA** Vězda

granifera (Ach.) Kalb & Lücking (Lendemer & Knudsen 2007) = *Malmidea granifera*

**MALMIDEA** Kalb, Rivas Plata & Lumbsch (Lücking et al. 2011b)

**cineracea** Breuss & Lücking ([Seavey et al. 2017](#))  
**flavopustulosa** (M. Cáceres & Lücking) M. Cáceres & Kalb (Seavey & Seavey 2014a)  
**floridensis** (Nyl.) M. Cáceres, Aptroot & Lücking Syn.: [Lecidea floridensis](#) (Cáceres et al. 2017)  
**furfurosa** (Tuck. ex Nyl.) Kalb & Lücking Syn.: *Lecidea furfurosa* (Lücking et al. 2011b)  
**fuscella** (Müll. Arg.) Kalb & Lücking (Lücking et al. 2011b)  
**granifera** (Ach.) Kalb, Rivas Plata & Lumbsch Syn.: *Lecanora granifera*, *Malcolmiella granifera* (Lücking et al. 2011b)  
**gyalectoides** (Vainio) Kalb & Lücking (Lücking et al. 2011b)  
**leptoloma** (Müll. Arg.) Kalb & Lücking (Lücking et al. 2011b)  
**piperis** (Sprengel) Kalb, Rivas Plata & Lumbsch (Lücking et al. 2011b)  
**rhodopis** (Tuck.) Kalb, Rivas Plata & Lumbsch (Lücking et al. 2011b)  
**variabilis** Kalb (Lücking et al. 2011b)  
**vinosa** (Eschw.) Kalb, Rivas Plata & Lumbsch (Lücking et al. 2011b)

**MARCHANDIOBASIDIUM** Diederich & Schultheis (Diederich & Lawrey 2007) = **ERYTHRICIUM**

\*aurantiacum (Lasch) Diederich & Schultheis = *Erythrimum aurantiacum* (Hawksworth & Helcini 2015)

**MARCHANDIOMYCES** Diederich & D. Hawksw.

\***buckii** Diederich & Lawrey (Diederich & Lawrey 2007)  
\***corallinus** (Roberge) Diederich & D. Hawksw. Syn.: *Illosporium corallinum*  
#**lignicola** Lawrey & Diederich (DePriest et al. 2005)

**MARONEA** A. Massal.

**constans** (Nyl.) Hepp Questionable for N.Am. (Harris 2006b)  
**polyphaea** H. Magn.

carolinae H. Magn. = *M. polyphaea* (Harris 2006b)  
porinoidea Zahlbr. = *Ramonia valenzueliana*

#### **MASONHALEA** Kärnefelt

**inermis** (Nyl.) Lumbsch, M. Nelsen & A. Thell Syns.: *Cetraria inermis*, *Tuckermannopsis inermis* (Nelsen et al. 2013)  
**richardsonii** (Hooker) Kärnefelt Syn.: *Cetraria richardsonii*

#### **MASSALONGIA** Körber

**carnosa** (Dickson) Körber  
**microphylliza** (Nyl. ex Hasse) Henssen Syns.: *Placynthium dubium*, *P. microphyllizum*

#### **MASSARINA** Sacc.

*staphyleae* (Petr.) Aptroot = *Pseudopyrenula staphyleae*

#### **MASTODIA** Hooker f. & Harvey

**tessellata** (Hooker f. & Harvey) Hooker f. & Harvey Syns.: *Kohlmeyera complicatula*, *Turgidosculum complicatulum* (Kohlmeyer et al. 2004)

#### **MAZOSIA** A. Massal.

**carnea** (Eckfeldt) Aptroot & M. Cáceres (Aptroot et al. 2014) Syns.: *Enterographa carnea*, *Ocellularia carnea*, *Thelotrema carneum*  
**viridescens** (Fée) Aptroot & M. Cáceres (Seavey et al. 2017) Syns.: *Platygrapha ocellata*, *Schismatomma ocellatum*  
*ocellata* (Nyl.) R. C. Harris = *M. viridescens* (Tehler 1993, Aptroot et al. 2014)

#### **MEDUSULINA** Müll. Arg.

**nitida** (Eschw.) Müll. Arg. Syn.: *Graphis nitida*  
**texana** Müll. Arg.

#### **MEGALARIA** Hafellner

**albocincta** (Degel.) Tønsberg (Ekman & Tønsberg 1996) Syns.: *Catillaria albocincta*, *Catillochroma albocinctum* (Fryday & Lendemer 2010)  
**allenae** Lendemer & McMullin (McMullin & Lendemer 2016)  
**alligatorensis** Lendemer (Lendemer et al. 2016c)  
**beechingii** Lendemer (Lendemer 2007b)  
**brodoana** S. Ekman & Tønsberg (Ekman & Tønsberg 1996)  
**columbiana** (G. Merr.) S. Ekman (Ekman & Tønsberg 1996) *Catillaria columbiana*  
**grossa** (Pers. ex Nyl.) Hafellner Syns.: *Catillaria grossa*, *Catinaria grossa*, *C. leucoplaca* auct.  
**jemtlandica** (Th. Fr. & Almq.) Fryday Syn.: *Catillaria jemtlandica*, *Lecidea sublimosa* (Fryday 2004a)  
**laureri** (Hepp ex Th. Fr.) Hafellner (Ekman & Tønsberg 1996) Syns.: *Catillaria laureri*, *Catinaria laureri*  
**leptocheila** (Tuck.) Fryday & Lendemer Syns.: *Catillaria leptocheila*, *Catillochroma leptocheilum* (Fryday & Lendemer 2010)  
**pannosa** (Zahlbr.) Fryday & Lendemer (Fryday & Lendemer 2010)  
**pulverea** (Borrer) Hafellner & E. Schreiner Syn.: *Catillaria pulverea*  
**versicolor** (Flotow) Fryday & Lendemer Syn.: *Catillochroma versicolor* (Fryday & Lendemer 2010)

#### **MEGALOSPORA** Meyen

**pachycheila** (Tuck.) Sipman Syn.: *Bombyliospora pachycheila*, *Heterothecium pachycheilum*  
**porphyritis** (Tuck.) R. C. Harris Syn.: *Bombyliospora porphyritis*  
**tuberculosa** (Fée) Sipman Syn.: *Bombyliospora tuberculosa*, *Heterothecium tuberculosum*  
*sanguinaria* (L.) A. Massal. = *Mycoblastus sanguinaria*  
*versicolor* (Fée) Zahlbr. = *Megalaria versicolor*

#### **MEGASPORA** (Clauz. & Cl. Roux) Hafellner & V. Wirth

**verrucosa** (Ach.) Hafellner & V. Wirth Syns.: *Pachyospora verrucosa*, *P. mutabilis*, *Lecanora verrucosa*, *L. mutabilis* (Ach.) Nyl. non Sommerf., *L. urceolaria*, *Pertusaria freyi*

MELANARIA Erichsen = PERTUSARIA  
*macounii* I. M. Lamb = *Pertusaria macounii*

**MELANELIA** Essl.

**agnata** (Nyl.) A. Thell Syn.: *Cetraria agnata*  
**culbersonii** (Hale) A. Thell Syn.: *Cetraria culbersonii*  
**hepatizon** (Ach.) A. Thell Syn.: *Cetraria hepatizon*, *C. polyschiza*  
**stygia** (L.) Essl. Syn.: *Parmelia stygia*  
*albertana* (Ahti) Essl. = *Melanelixia albertana*  
*commixta* (Nyl.) A. Thell = *Cetrariella commixta*  
*disjuncta* (Erichsen) Essl. = *Montanelia disjuncta*  
*elegantula* (Zahlbr.) Essl. = *Melanohalea elegantula*  
*exasperata* (De Not.) Essl. = *Melanohalea exasperata*  
*exasperatula* (Nyl.) Essl. = *Melanohalea exasperatula*  
*fuliginosa* (Fr. ex Duby) Essl. = *Melanelixia fuliginosa*, but apparently absent from North America  
*glabra* (Schaerer) Essl. North American reports are *Melanelixia californica*  
*glabratula* (Lamy) Essl. = *Melanelixia glabratula*  
*glabroides* (Essl.) Essl. = *Melanelixia glabroides*  
*granulosa* (Lynge) Essl. = *Montanelia disjuncta*  
*halei* (Ahti) Essl. = *Melanohalea halei*  
*incolorata* (Parrique) Essl. = *Melanohalea elegantula*  
*infumata* (Nyl.) Essl. = *Melanohalea infumata*  
*multispora* (A. Schneider) Essl. = *Melanohalea multispora*  
*olivacea* (L.) Essl. = *Melanohalea olivacea*  
*olivaceoides* (Krog) Essl. = *Melanohalea olivaceoides*  
*panniformis* (Nyl.) Essl. = *Montanelia panniformis*  
*septentrionalis* (Lynge) Essl. = *Melanohalea septentrionalis*  
*sorediata* (Ach.) Goward & Ahti = *Montanelia sorediata*  
*sorediosa* (Almb.) Essl. = *Montanelia sorediata*  
*subargentifera* (Nyl.) Essl. = *Melanelixia subargentifera*  
*subaurifera* (Nyl.) Essl. = *Melanelixia subaurifera*  
*subelegantula* (Essl.) Essl. = *Melanohalea subelegantula*  
*subolivacea* (Nyl.) Essl. = *Melanohalea subolivacea*  
*substygia* (Räsänen) Essl. = *Montanelia tominii*, but North American reports are *M. saximontana* or *M. secwepemc*  
*tominii* (Oxner) Essl. = *Montanelia tominii*, but North American reports are *M. saximontana* or *M. secwepemc*  
*trabeculata* (Ahti) Essl. = *Melanohalea trabeculata*  
*villosella* (Essl.) Essl. (Esslinger 2002c) = *Melanelixia villosella*

**MELANELIXIA** O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch (Blanco et al. 2004a)

**ahtii** S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016)  
**albertana** (Ahti) O. Blanco et al. Syns.: *Melanelia albertana*, *Parmelia albertana*  
**californica** A. Crespo & Divakar (Divakar et al. 2010)  
**glabratula** (Lamy) Sandler & Arup Syns.: *Melanelia glabratula*, *Parmelia glabratula*  
**glabroides** (Essl.) O. Blanco et al. Syns.: *Melanelia glabroides*, *Parmelia glabroides*  
**robertsoniorum** S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016)  
**subargentifera** (Nyl.) O. Blanco et al. Syns.: *Melanelia subargentifera*, *Parmelia subargentifera*, *P. conspurcata*  
**subaurifera** (Nyl.) O. Blanco et al. Syns.: *Melanelia subaurifera*, *Parmelia subaurifera*  
**villosella** (Essl.) O. Blanco et al. Syns.: *Melanelia villosella*, *Parmelia villosella*  
*fuliginosa* (Fr. ex Duby) O. Blanco et al. North American reports are misidentifications of *M. glabratula* (Leavitt et al. 2012)



glabra (Schaerer) O. Blanco et al. North American reports are *M. californica*

**MELANOGRAPHIA** Müll. Arg. (Ertz & Diederich 2015)

\***tribulodes** (Tuck.) Müll. Arg. Syn.: *Melaspilea tribulodes*, *Opegrapha tribulodes* (Ertz & Diederich 2015)

**MELANOHALEA** O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch (Blanco et al. 2004a)

**beringiana** S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016)

**clari** S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016)

**columbiana** S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016)

**elegantula** (Zahlbr.) O. Blanco et al. Syns.: *Melanelia elegantula*, *M. incolorata*, *Parmelia elegantula*

**exasperata** (De Not.) O. Blanco et al. Syns.: *Melanelia exasperata*, *Parmelia exasperata*, *P. aspera*, *P. aspidota*

**exasperatula** (Nyl.) O. Blanco et al. Syns.: *Melanelia exasperatula*, *Parmelia exasperatula*

**halei** (Ahti) O. Blanco et al. Syns.: *Melanelia halei*, *Parmelia halei*

**infumata** (Nyl.) O. Blanco et al. Syns.: *Melanelia infumata*, *Parmelia infumata*

**multispora** (A. Schneider) O. Blanco et al. Syns.: *Melanelia multispora*, *Parmelia multispora*

**olivacea** (L.) O. Blanco et al. Syns.: *Melanelia olivacea*, *Parmelia olivacea*

**olivaceoides** (Krog) O. Blanco et al. Syns.: *Melanelia olivaceoides*, *Parmelia olivaceoides*

**septentrionalis** (Lynge) O. Blanco et al. Syns.: *Melanelia septentrionalis*, *Parmelia septentrionalis*

**subelegantula** (Essl.) O. Blanco et al. Syns.: *Melanelia subelegantula*, *Parmelia subelegantula*

**subolivacea** (Nyl.) O. Blanco et al. Syns.: *Melanelia subolivacea*, *Parmelia subolivacea*

**tahltan** S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016)

**trabeculata** (Ahti) O. Blanco et al. Syns.: *Melanelia trabeculata*, *Parmelia trabeculata*

**MELANOLECIA** Hertel

**transitoria** (Arnold) Hertel ex Poelt

*jurana* (Schaerer) Hertel = *Farnoldia jurana*

*micropsis* (A. Massal.) Hertel = *Farnoldia micropsis*

**MELANOMMA** Nitschke ex Fuckel

<sup>+</sup>**oxysporum** (Zahlbr.) D. Hawksw. Syn.: *Microthelia oxyspora*

**MELANOPHLOEA** P. James & Vězda

*americana* K. Knudsen & Lendemer (Knudsen et al. 2011b) = *Trimmatothelopsis americana* (Knudsen & Lendemer 2016) Syn.: *Thelenella americana* (Knudsen & Kocourová 2013)

**MELANOTHECA** Körber = **PYRENULA**

*achariana* Fée = *Pyrenula anomala*

*aggregata* (Fée) Müll. Arg. = not in North America

*anomala* (Ach.) A. Massal. = *Pyrenula anomala*

*cinerata* Zahlbr. = *Pyrenula sexlocularis*

*concatervans* (Nyl.) Zahlbr. = *Pyrenula sexlocularis*

*cruenta* (Mont.) Müll. Arg. = *Pyrenula cruenta*

*esenbeckiana* Fée = *Tomasellia esenbeckiana*, but a misidentification for North America

*subincruenta* (Nyl.) Zahlbr. = *Pyrenula cruenta*

*wrightii* Müll. Arg. = misidentification for North American records

**MELANOTOPELIA** Lumbsch & Mangold (Mangold et al. 2008)

**toensbergii** (Vězda & Kantvilas) Lumbsch & Mangold Syn.: *Topeliopsis toensbergii* (Mangold et al. 2008)

**MELANOTREMA** A. Frisch (Frisch 2006)

**meiospermum** (Nyl.) A. Frisch Syn.: *Ocellularia meiosperma*, *Phaeotrema meiospermum* (Frisch 2006)

**platystomum** (Mont.) Frisch (Seavey & Seavey 2014a)

## **MELASPILEA** Nyl.

**amota** Nyl.

**cinerascens** (Willey) Fink Syn.: *Opegrapha cinerascens*

**constrictella** (Stirton) A. L. Sm.

\***cupularis** Müll. Arg.

**demissa** (Tuck.) Zahlbr. Syn.: *Opegrapha demissa*

\***epigena** Müll. Arg. (Esslinger & Egan 1995)

**gemella** (Eschw.) Nyl. (Esslinger & Tucker 2009)

**interjecta** (Leighton) A. L. Sm. (Villella et al. 2013)

**maculosa** (Fr.) Müll. Arg.

**stellans** Zahlbr.

**urceolata** (Fr.) Ertz & Diederich (Ertz & Diederich 2015)

arthonioides (Fée) Nyl. = *M. urceolata* (Ertz & Diederich 2015)

deformis (Schaerer) Nyl. = *Hazslinszkya gibberulosa*, but misidentifications for North America (Perlmutter et al. 2015)

difformis (Rabenh.) Nyl. = *Hazslinszkya gibberulosa* (Ertz & Diederich 2015)

*gibberulosa* (Ach.) Zwackh (Brodo 1967) = *Hazslinszkya gibberulosa* (Ertz & Diederich 2015)

*lentiginosula* (Nyl.) A. L. Sm. = misidentification for North America (Perlmutter et al. 2015)

*mesophlebia* (Nyl.) Müll. Arg. = *Opegrapha mesophlebia* (Perlmutter et al. 2015)

*octomera* Müll. Arg. = *Opegrapha astraea* (Perlmutter et al. 2015)

+*proximella* (Nyl.) Nyl. = *Melaspileella proximella* (Ertz & Diederich 2015)

\**tribulodes* (Tuck.) Müll. Arg. = *Melanographa tribulodes* (Ertz & Diederich 2015)

## **MELASPILEELLA** (P. Karsten) Vainio (Ertz & Diederich 2015)

+**proximella** (Nyl.) Ertz & Diederich Syn.: *Melaspilea proximella*

## **MENEGAZZIA** A. Massal.

**subsimilis** (H. Magn.) R. Sant. (Bjerke 2003)

**terebrata** (Hoffm.) A. Massal. Syns.: *Parmelia pertusa*, *P. sipeana*

*pertusa* (Schränk) Stein = *M. terebrata*

## **MERISMATIUM** Zopf

\***coccisporum** (Norman) Vouaux

\***decolorans** (Rehm ex Arnold) Triebel

\***heterophractum** (Nyl.) Vouaux (Zhurbenko & Laursen 2003)

\***nigritellum** (Nyl.) Vouaux (Zhurbenko & Dillman 2010)

\***peregrinum** (Flotow) Triebel (Harris & Lendemer 2005)

## **METAMELANEA** Henssen

**melambola** (Tuck.) Henssen Syns.: *Pyrenopsis melambola*, *Synalissa melambola*

**umbonata** Henssen (Fryday 2006)

## **METASPHAERIA** Sacc.

\**tartarina* (Nyl.) Keissler (Talbot et al. 2000) = *Sagediopsis campsteriana*

## **MICAREA** Fr.

**adnata** Coppins (McCune 2017)

**alabastrites** (Nyl.) Coppins (Tønsberg & Coppins 2000)

**anterior** (Nyl.) Hedl. (McCune et al. 2014b)

**assimilata** (Nyl.) Coppins Syn.: *Lecidea assimilata*

**botryoides** (Nyl.) Coppins (McCune 1996)

**byssacea** (Th. Fr.) Czarnota, Guzew-Krzemińska & Coppins (Launis & Myllys 2014)

**chlorosticta** (Tuck.) R. C. Harris Syn.: *Bacidia chlorosticta*

**cinerea** (Schaerer) Hedl.

**coppinsii** Tønsberg (Fryday 2006)

**deminuta** Coppins (Fryday & Coppins 2007)  
**denigrata** (Fr.) Hedl. Syn.: *Lecidea aniptiza*  
**elachista** (Körber) Coppins & R. Sant.  
**endocyanea** (Tuck. ex Willey) R. C. Harris Syn.: *Bacidia endocyanea*  
**globulosella** (Nyl.) Coppins  
**hedlundii** Coppins  
**incrassata** Hedl.  
**leprosula** (Th. Fr.) Coppins & A. Fletcher  
**lignaria** (Ach.) Hedl. Syn.: *Bacidia lignaria*  
**lithinella** (Nyl.) Hedl.  
**marginata** Coppins & Muhr (Fryday 2006)  
**melaena** (Nyl.) Hedl. Syn.: *Bacidia melaena*, *Bilimbia melaena*  
**micrococca** (Körber) Gams ex Coppins (Fryday & Coppins 2007)  
**misella** (Nyl.) Hedl. Syn.: *Lecidea misella*  
**myriocarpa** V. Wirth & Vězda ex Coppins (Tønsberg 1999a)  
**neostipitata** Coppins & P. May (Coppins & May 2001)  
**nigella** Coppins (McCune 2017)  
**nitschkeana** (J. Lahm ex Rabenh.) Harm.  
**paratropa** (Nyl.) Alstrup (Alstrup et al. 1994)  
**peliocharpa** (Anzi) Coppins & R. Sant. Syn.: *Bacidia trisepta*, *Bilimbia trisepta*  
**perparvula** (Nyl.) Coppins & Printzen (Printzen 1995, Coppins 2008)  
**prasina** Fr. Syn.: *Catillaria prasina*  
**prasinella** (Jatta) I. M. Lamb (Spribille et al. 2010)  
**pycnidiophora** Coppins & P. James  
**rhabdogena** (Norman) Hedl. Syn.: *Lecidea punctella* (Printzen 1995)  
**subalpina** Coppins & T. Sprib. (Coppins & Spribille 2004)  
**subviridescens** (Nyl.) Hedl. (McCune 2017)  
**synotheoides** (Nyl.) Coppins (Tønsberg & Coppins 2000)  
**ternaria** (Nyl.) Vězda Syn.: *Lecidea suballinita*  
**turfosa** (A. Massal.) Du Rietz  
**vulpinaris** (Nyl.) Muhr  
**xanthonica** Coppins & Tønsberg (Coppins & Tønsberg 2001)  
bauschiana (Körber) V. Wirth & Vězda = *Brianaria bauschiana* (Ekman & Svensson 2014)  
clavopycnidiata Brodo & Tønsberg = *Szczawinskia tsugae* (Aptroot et al. 1997)  
crassipes (Th. Fr.) Coppins = *Helocarpon crassipes*  
erratica (Körber) Hertel, Rambold & Pietschmann = *Leimonis erratica*  
gelatinosa (Flörke) Brodo = *Trapeliopsis gelatinosa*  
globularis "(Ach. ex Nyl.) Hedl." = *M. misella*  
lutulata (Nyl.) Coppins = *Brianaria lutulata* (Ekman & Svensson 2014)  
lynceola (Th. Fr.) Palice = misidentification for North America? (Coppins & Fryday 2006b)  
melanobola (Nyl.) Coppins = misidentification for North America (Coppins & Fryday 2006b)  
populina (Müll. Arg. ex Nyl.) R. A. Anderson & M. P. Carmer = *Lecidea populina*  
subviolascens (H. Magn.) Coppins = *Micarea paratropa* (Alstrup et al. 1994)  
sylvicola (Flotow) Vězda & V. Wirth = *Brianaria sylvicola* (Ekman & Svensson 2014)  
trisepta (Hellbom) Wetmore = *M. peliocharpa*  
tuberculata (Sommerf.) R. A. Anderson = *Brianaria tuberculata* (Ekman & Svensson 2014)  
violacea (Crouan ex Nyl.) Hedl. = *M. peliocharpa*  
viridescens (Schrader) Brodo = *Trapeliopsis viridescens*

**MICAREOPSIS** R. C. Harris & Lendemer (Lendemer et al. 2013)

**irriguata** R. C. Harris & Lendemer

**MICROCALICIUM** Vainio

<sup>+</sup>**ahlneri** Tibell

<sup>#</sup>**arenarium** (Hampe ex A. Massal.) Tibell Syn.: *Coniocybopsis arenaria*

<sup>\*</sup>**conversum** Tibell (Tibell & Ryan 2004)



- \***disseminatum** (Ach.) Vainio Syns.: *Mycocalicium disseminatum*, *Calicium disseminatum*
- \***subpedicellatum** (Schaerer) Tibell = *M. disseminatum*

#### MICROGLAENA Körber nom. illegit. = THELENELLA

- corrosa** (Körber) Arnold = *Protothelenella corrosa*
- hassei** Zahlbr. = *Thelenella hassei*
- inductula** (Nyl.) Servit = *Thelenella inductula*
- muscorum** (Fr.) Th. Fr. = *Thelenella muscorum*
- sordidula** Th. Fr. = *Thelenella sordidula*
- sphinctrinoides** (Nyl.) Lönnr. = *Protothelenella sphinctrinoides*
- subcorallina** Hasse = *Thelenella modesta*
- sychnogonoides** Zahlbr. = *Thelenella hassei*

#### MICROLYCHNUS A. Funk

- epicorticis** A. Funk = *Gyalideopsis epicorticis*

#### MICROPHIALE (Stizenb.) Zahlbr. = COENOGONIUM

- diluta** (Pers.) Zahlbr. (Fink 1935) = *Coenogonium pineti*
- lutea** (Dickson) Zahlbr. (Fink 1935) = *Coenogonium luteum*

#### MICROTHELIA Körber = ANISOMERIDUM

- #**aterrima** (Kremp. ex Anzi) Zahlbr. = *Lichenothelia scopularia*
- hymnothora** (Ach.) Trevisan = *Granulopyrenis hymnothora*
- #**inops** Degel. = *Kirschsteiniothelia aethiops*
- #**metzleri** J. Lahm = *Lichenothelia metzleri*
- #**micula** auct. non Flotow ex Körber = *Kirschsteiniothelia aethiops* for most North American records
- +**oblongata** Müll. Arg. = *Mycomicrothelia wallrothii*
- +**oxyspora** Zahlbr. = *Melanomma oxysporum*
- +**thelena** (Ach.) Trevisan = *Mycomicrothelia thelena*, but not found in North America
- verruculosa** Anastasiou = identity uncertain
- +**wallrothii** (Hepp) Rehm = *Mycomicrothelia wallrothii*
- #**willeyana** Müll. Arg. = *Mycomicrothelia willeyana*

#### MINUTOEXCIPULA V. Atienza & D. Hawksw.

- \***mariana** V. Atienza (Diederich 2003)
- \***miniatoexcipula** R. C. Harris & Lendemer ([Lendemer et al. 2016c](#))
- \***tuckerae** V. Atienza & D. Hawksw.

#### MIRIQUIDICA Hertel & Rambold (Hertel & Rambold 1987)

- atrofulva** (Sommerf.) A. J. Schwab & Rambold Syn.: *Lecidea atrofulva*
- deusta** (Stenh.) Hertel & Rambold Syn.: *Lecidea deustata*
- garovaglioi** (Schaerer) Hertel & Rambold Syns.: *Lecidea garovaglioi*, *L. aenea*
- griseoatra** (Flotow) Hertel & Rambold Syn.: (?) *Lecidea subplumbea*
- instrata** (Nyl.) Hertel & Rambold Syn.: *Lecidea instrata*
- intrudens** (H. Magn.) Hertel & Rambold Syn.: *Lecanora intrudens*
- leucophaea** (Flörke ex Rabenh.) Hertel & Rambold Syns.: *Lecidea leucophaea*, *L. marylandensis*
- leucophaeoides** (Nyl.) Hertel & Andreev Syn.: *Lecidea leucophaeoides* (Hertel & Andreev 2003)
- lulensis** (Hellbom) Hertel & Rambold Syns.: *Lecidea lulensis*, *L. circumnigrata* var. *reagens*
- nigroleprosa** (Vainio) Hertel & Rambold (Spribille et al. 2010)
- plumbeoatra** (Vainio) A. J. Schwab & Rambold Syn.: *Lecidea plumbeoatra*, *L. furva*, *L. humilis*
- pulvinatula** (Arnold) Hertel & Rambold Syn.: *Lecidea circumnigrata*
- pyncocarpa** (Körber) Andreev Syn.: *Lecidea marciensis*, *L. pyncocarpa*, *Lecidella pyncocarpa* (Coppins & Fryday 2006b)
- scotopholis** (Tuck.) B. D. Ryan & Timdal Syns.: *Lecanora scotopholis*, *Lecidea scotopholis*, *Psora scotopholis*, *Psorula scotopholis* (Nash et al. 2004a)
- subplumbea** (Anzi) Cl. Roux ([McCune 2017](#), [McMullin et al. 2017](#))

#**verrucariicola** (B. D. Ryan) K. Knudsen & Kocourk. Syns.: *Lecanora verrucariicola*, *Protoparmelia ryaniana* (Knudsen et al. 2015)  
*mexicana* Rambold, Sipman & Hertel (Knudsen & Owe-Larson 2005) = *M. scotopholis* (Knudsen et al. 2008b, Lendemer & Knudsen 2008, Knudsen et al. 2015)

**MOBERGIA** H. Mayrhofer & Sheard

**angelica** (Stizenb.) H. Mayrhofer & Sheard Syns.: *Rinodina angelica*, *R. bolodes*, *R. dirinoides*, *Dimelaena angelica*

**calculiformis** (W. A. Weber) H. Mayrhofer & Sheard Syns.: *Rinodina calculiformis*, *R. platyloba*

**MOELLEROPSIS** Gyelnik

**nebulosa** (Hoffm.) Gyelnik subsp. **nebulosa** (Jørgensen 2002)

**nebulosa** (Hoffm.) Gyelnik subsp. **frullaniae** Maass (Jørgensen 2000a, Maass 1986)

**MONOBLASTIA** Riddle

**borinquensis** R. C. Harris (Harris 1995a)

**buckii** R. C. Harris

**cypressi** R. C. Harris (Harris 1995a)

**palmicola** Riddle (Seavey et al. 2017)

**rappii** Zahlbr.

**MONOBLASTIOPSIS** R. C. Harris & C. A. Morse

**konzana** R. C. Harris & C. A. Morse (Harris & Morse 2008)

**nigrocortina** R. C. Harris & C. A. Morse (Harris & Morse 2008)

**MONODICTYS** S. Hughes

\***cellulosa** S. Hughes (Diederich 2003)

\***fuliginosa** Etayo (Zhurbenko 2009b)

**MONTANELIA** Divakar, A. Crespo, Wedin & Essl. (Divakar et al. 2012)

**disjuncta** (Erichsen) Divakar, A. Crespo, Wedin & Essl. Syns.: *Melanelia disjuncta*, *Parmelia disjuncta*, *P. granulosa*, *P. denalii*

**ocultipanniformis** S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016)

**panniformis** (Nyl.) Divakar, A. Crespo, Wedin & Essl. Syns.: *Melanelia panniformis*, *Parmelia panniformis*

**saximontana** (R. Anderson & W. Weber) S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016) Syn.: *Parmelia saximontana*, *P. substygia* p.p.

**secwepemc** S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch (Leavitt et al. 2016)

**sorediata** (Ach.) Divakar, A. Crespo, Wedin & Essl. Syns.: *Melanelia sorediata*, *M. sorediosa*, *Parmelia sorediata*, *P. sorediosa*

*tominii* (Oxner) Divakar, A. Crespo, Wedin & Essl. North American reports are *M. saximontana* or *M. secwepemc* Syns.: *Melanelia tominii*, *Parmelia saximontana*, *P. substygia*

**MOSIGIA** Fr. ex A. Massal. = **RIMULARIA**

*gibbosa* (Ach.) Fr. ex A. Massal. = *Rimularia gibbosa*

**MUELLERELLA** Hepp ex Müll. Arg.

\***erratica** (A. Massal.) Hafellner & V. John Syn.: *M. pygmaea* v. *athallina* (Knudsen & Kocourková 2009b)

\***hospitans** Stizenb. (Spribille et al. 2010)

\***lecanactidis** Diederich & van den Boom (Diederich 2003)

\***lichenicola** (Sommerf. ex Fr.) D. Hawksw.

\***pygmaea** (Körber) D. Hawksw. Syn.: *Tichothecium pygmaeum*

\***ventosicola** (Mudd) D. Hawksw.

\**pygmaea* var. *athallina* (Müll. Arg.) Triebel = \**M. erratica*

\**pygmaea* var. *ventosicola* (Mudd) Triebel = \**M. Ventosicola*



**MULTICLAVULA** R. H. Petersen**coronilla** (G. W. Martin) R. H. Petersen**corynoides** (Peck) R. H. Petersen**mucida** (Fr.) R. H. Petersen**sharpii** R. H. Petersen**vernalis** (Schwein.) R. H. Petersen**MYCOBILIMBIA** Rehm**berengeriana** (A. Massal.) Hafellner & V. Wirth Syn.: *Lecidea berengeriana***carneoalbida** (Müll. Arg.) S. Ekman & Printzen (Ekman 2004c) Syns.: *Bacidia carneoalbida*, *B. sphaeroides*, *Biatora carneoalbida*, *Bilimbia sphaeroides* auct.**epixanthoides** (Nyl.) Vitik., Ahti, Kuusinen, Lommi & T. Ulvinen (Hafellner & Türk 2001) Syns: *Biatora epixanthoides*, *Lecidea epixanthoides***fissuriseda** (Poelt) Poelt & Hafellner Syn.: *Lecidea fissuriseda***pilularis** (Körber) Hafellner & Türk Syns.: *Bacidia sphaeroides*, *Biatora sphaeroides*, *Bilimbia sphaeroides*, *Catillaria sphaeroides* (Hafellner & Türk 2001)**tetramera** (De Not.) Vitik., Ahti, Kuusinen, Lommi & T. Ulvinen ex Hafellner & Türk (Hafellner & Türk 2001) Syn.: *Bacidia fusca**accedens* (Arnold) V. Wirth ex Hafellner = *Bilimbia accedens**austrocalifornica* (Zahlbr.) Knudsen (Knudsen 2005b) = *Carbonea latypizodes**fusca* (A. Massal.) Hafellner & V. Wirth = *M. tetramera**hypnorum* (Lib.) Kalb & Hafellner = *Bryobilimbia hypnorum**lobulata* (Sommerf.) Hafellner = *Bilimbia lobulata**lurida* (Ach.) Hafellner & Türk (Hafellner & Türk 2001) = *Romjularia lurida**microcarpa* (Th. Fr.) W. Brunnbauer = *Bilimbia microcarpa**obscurata* (Sommerf.) Rehm = *M. tetramera**sabuletorum* (Schreber) Hafellner = *Bilimbia sabuletorum***MYCOBLASTUS** Norman**affinis** (Schaerer) T. Schauer**alpinus** (Fr.) Th. Fr. Ex Hellbom**caesius** (Coppins & P. James) Tønsberg Syn.: *Haematomma caesium***glabrescens** (Nyl.) Zahlbr. (Kantvilas 2009)**sanguinarioides** Kantvilas (Spribille et al. 2011b)**sanguinarius** (L.) Norman Syn.: *Megalospora sanguinaria**fucatus* (Stirton) Zahlbr. = *Violella fucata* (Spribille et al. 2011a)*marginatus* Degel. = *M. affinis* (Spribille & Tønsberg 2007)*melinus* (Kremp. ex Nyl.) Hellbom = *M. affinis**tornoënsis* (Nyl.) R. A. Anderson = *Japewia tornoënsis***MYCOCALICIUM** Vainio<sup>+</sup>**albonigrum** (Nyl.) Fink Syn.: *Calicium albonigrum*<sup>+</sup>**americanum** (R. Sant.) Tibell<sup>+</sup>**calicioides** (Nádv.) Tibell Syn.: *Sphinctrinella calicioides***fuscipes** (Tuck.) Fink Syn.: *Calicium fuscipes***ravenelii** (Tuck.) Fink Syn.: *Calicium ravenelii***reticulatum** Nádv.<sup>+</sup>**sequoiae** Bonar<sup>+</sup>**subtile** (Pers.) Szatala Syns.: *M. parietinum*, *Calicium subtile***victoriae** (C. Knight & F. Wilson) Nádv. (Nash et al. 1998; Tibell 2007)<sup>+</sup>*compressulum* Nyl. ex Szatala = *Phaeocalicium compressulum*<sup>\*</sup>*disseminatum* (Ach.) Fink = *Microcalicium disseminatum*<sup>\*</sup>*microcephalum* (Sm.) Fink = *Sphinctrina anglica*<sup>+</sup>*parietinum* (Ach. ex Schaerer) D. Hawksw. = *M. subtile*<sup>#</sup>*pusiolum* (Ach.) Räsänen = *Chaenothecopsis pusiola*



<sup>+</sup>rappii Nád. = Chaenothecopsis rappii (Harris 1995a)

<sup>+</sup>savonicum Räsänen = Chaenothecopsis savonica

#### MYCOGLAENA Höhnelt

<sup>+</sup>acuminans (Nyl.) Vainio

<sup>+</sup>alni (Dearness & House) Barr

<sup>+</sup>canadensis (Ellis & Everh.) Barr

<sup>+</sup>elegans (Berk. & Curtis) Höhnelt

<sup>+</sup>meridionalis (Zahlbr.) Szatala

<sup>+</sup>myricae (Nyl.) R. C. Harris

<sup>+</sup>quercicola R. C. Harris

<sup>+</sup>subcoerulescens (Nyl.) Höhnelt

#### MYCOMICROTHELIA Keissler

**apposita** (Nyl.) D. Hawksw. (Seavey et al. 2017)

#**captiosa** (Kremp.) D. Hawksw.

**decipiens** (Müll. Arg.) R. C. Harris (Seavey et al. 2017)

<sup>+</sup>dothideaspora (Cook & Harkn.) D. Hawksw.

#**hemisphaerica** (Müll. Arg.) D. Hawksw.

<sup>+</sup>inaequalis (Fabre) D. Hawksw.

#**subfallens** (Müll. Arg.) D. Hawksw.

<sup>+</sup>wallrothii (Hepp) D. Hawksw. Syn.: Microthelia wallrothii, M. oblongata

#**willeyana** (Müll. Arg.) D. Hawksw. Syn.: Microthelia willeyana

thelena (Ach.) D. Hawksw. Syn.: Microthelia thelena, but not found in North America

#### MYCOPORELLUM Müll. Arg.

californicum Zahlbr. = Mycoporum californicum (Harris 1995a)

difforme (Minks) Fink = Mycoporum lacteum (Harris 1995a)

hassei Zahlbr. = Mycoporum lacteum (Harris 1995a)

sparsellum (Nyl.) Müll. Arg. = Mycoporum sparsellum (Harris 1995a)

#### MYCOPORUM Flotow ex Nyl.

**acervatum** R. C. Harris (Harris 1995a)

**antecellens** (Nyl.) R. C. Harris Syn.: Arthopyrenia antecellens (Harris 1995a)

**biseptatum** Lendemer & R. C. Harris Syn.: Arthonia biseptata (Lendemer & Harris 2014c, Lendemer & Harris 2015a)

**buckii** R. C. Harris (Harris 1995a)

**californicum** (Zahlbr.) R. C. Harris (Harris 1995a) Syns.: Tomasellia californica, Mycoporellum californicum

**compositum** (A. Massal.) R. C. Harris Syns.: Dermatina "pyrenocarpa", Arthothelium lichenale

**eschweileri** (Müll. Arg.) R. C. Harris (Harris 1995a) Syn.: Tomasellia eschweileri

<sup>+</sup>**hippocastani** (DC) Coppins (Aptroot 2002c)

**lacteum** (Ach.) R. C. Harris (Harris 1995a) Syn.: Mycoporellum difforme, M. hassei, Tomasellia lactaea

**mycoporoides** (Müll. Arg.) R. C. Harris (Harris 1995a) Syn.: Arthopyrenia mycoporoides

**pyncocarpoides** Müll. Arg.

**sparsellum** Nyl. (Harris 1995a) Syns.: Tomasellia sparsella, Mycoporellum sparsellum

**uniloculatum** R. C. Harris (Harris 1995a)

ohiense Nyl. ex Fink = M. compositum

pyncocarpum Nyl. = M. compositum

#### MYELOCHROA (Asahina) Elix & Hale

**aurulenta** (Tuck.) Elix & Hale Syns.: Parmelina aurulenta, Parmelia aurulenta, P. silvestris

**galbina** (Ach.) Elix & Hale Syns.: Parmelina galbina, Parmelia galbina, P. subquercifolia, P. sulphurosa

**metarevoluta** (Asahina) Elix & Hale Syns.: *Parmelina metarevoluta*, *Parmelia metarevoluta*  
**obsessa** (Ach.) Elix & Hale Syns.: *Parmelina obsessa*, *Parmelia obsessa*, *P. finkii*

**MYOCHROIDEA** Printzen, T. Sprib. & Tønsberg (Printzen et al. 2008)

**leprosula** (Arnold) Printzen, T. Sprib. & Tønsberg

**minutula** Printzen, T. Sprib. & Tønsberg

**porphyrospoda** (Anzi) Printzen, T. Sprib. & Tønsberg Syns.: *Biatora porphyrospoda*, *Lecidea porphyrospoda*

**rufofusca** (Anzi) Printzen, T. Sprib. & Tønsberg Syn. : *Biatora rufofusca*, *Lecidea rufofusca*

**MYRIOLECIS** Clem.

**agardhiana** (Ach.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora agardhiana* (Zhao et al. 2016)

**albescens** (Hoffm.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora albescens*, *L. galactina* (Zhao et al. 2016)

**andrewii** (B. de Lesd.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora andrewii* (Zhao et al. 2016)

**carlottiana** (Lewis & Šliwa) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora carlottiana* (Zhao et al. 2016)

**contractula** (Nyl.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora contractula* (Zhao et al. 2016)

**crenulata** (Hooker) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora crenulata* (Zhao et al. 2016)

**dispersa** (Pers.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora dispersa* (Zhao et al. 2016)

**flowersiana** (H. Magn.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora flowersiana* (Zhao et al. 2016)

**fugiens** (Nyl.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora fugiens* (Zhao et al. 2016)

**hagenii** (Ach.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora hagenii* (Zhao et al. 2016)

**invadens** (H. Magn.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora invadens* (Zhao et al. 2016)

**juniperina** (Šliwa) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora juniperina* (Zhao et al. 2016)

**percrenata** (H. Magn.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora percrenata* (Zhao et al. 2016)

**perpruinosa** (Frøberg) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora perpruinosa* (Zhao et al. 2016)

**persimilis** (Th. Fr.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora persimilis* (Zhao et al. 2016)

**salina** (H. Magn.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora salina* (Zhao et al. 2016)

**sambuci** (Pers.) Clem. Syn.: [Lecanora sambuci](#) (Zhao et al. 2016)

**schofieldii** (Brodo) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora schofieldii* (Zhao et al. 2016)

**semipallida** (H. Magn.) Šliwa, Zhao Xin & Lumbsch Syns.: *Lecanora flotoviana*, *L. semipallida* (Zhao et al. 2016)

**straminea** (Ach.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora straminea* (Zhao et al. 2016)

**torrida** (Vainio) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora torrida* (Zhao et al. 2016)

**wetmorei** (Šliwa) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora wetmorei* (Zhao et al. 2016)

**zosteræ** (Ach.) Šliwa, Zhao Xin & Lumbsch Syn.: *Lecanora zosteræ* (Zhao et al. 2016)

**MYRIONORA** R. C. Harris

**albidula** (Willey) R. C. Harris Syn.: *Biatorella albidula*

**MYRIOSPORA** Nägeli ex Uloth (Arcadia & Knudsen 2012)

**hassei** (Herre) K. Knudsen & L. Arcadia Syns.: *Acarospora hassei*, *A. particularis*, *Silobia hassei* (Arcadia & Knudsen 2012)

**rhagadiza** (Nyl.) K. Knudsen & L. Arcadia Syns.: *Acarospora amphibola* auct., *Silobia rhagadiza* (Arcadia & Knudsen 2012)

**scabrida** (Hedl. ex Magn.) K. Knudsen & L. Arcadia Syns.: *Acarospora scabrida*, *Silobia scabrida* (Arcadia & Knudsen 2012)

**smaragdula** (Wahlenb. ex Ach.) Nägeli ex Uloth Syns.: *Acarospora amphibola*, *A. smaragdula*, *A. smaragdula* var. *lesdainii*, *Silobia smaragdula* (Arcadia & Knudsen 2012)

**heppii** (Nägeli ex Körber) Hue = *Caeruleum heppii*

**immersa** (Fink ex J. Hedrick) R. C. Harris = *Caeruleum immersum*

**MYRIOTREMA** Fée

**clandestinum** (Fée) Hale Syn.: [Ocellularia terebratula](#) (Lücking et al. 2016)

**glauculum** (Nyl.) Hale



**microporum** (Mont.) Hale Syn.: *Ocellularia micropora*  
**rugiferum** (Harm.) Hale  
 bahianum (Ach.) Hale North American reports are *Ocellularia obturascens* (Lücking et al. 2011)  
 compunctum (Ach.) Hale = *Leucodecton occultum*  
 erodens R. C. Harris = *Ocellularia erodens* (Lücking et al. 2016)  
 glaucescens (Nyl.) Hale = *Leucodecton glaucescens*  
 glaucophaenum (Kremp.) Hale = *Glaucotrema glaucophaenum*  
 granulosum (Leighton) Hale Erroneously reported for North America  
 halei (Tuck.) Hale = *Fibrillithecis halei*  
 laeviusculum (Nyl.) Hale = *Ocellularia laeviusculum* (Lücking et al. 2016)  
 peninsulae R. C. Harris = *Nadvornikia peninsulae* (Lücking et al. 2016)  
 pycnoporellum (Nyl.) Hale (Lücking et al. 2011b) = *Pycnotrema pycnoporellum* (Lücking et al. 2016)  
 reclusum (Kremp.) Hale = *Leucodecton compunctellum* (Lücking et al. 2016)  
 subcompunctum (Nyl.) Hale = *Leucodecton subcompunctum*  
 terebratulum (Nyl.) Hale = *Myriotrema clandestinum* (Lücking et al. 2016)  
 wightii (Taylor) Hale = *Sanguinotrema wightii*

MYXOBILIMBIA Hafellner = *BILIMBIA* (Veldkamp 2004)  
 accedens (Arnold) Hafellner = *Bilimbia accedens*  
 sabuletorum (Schreber) Hafellner = *Bilimbia sabuletorum*

MYXOPHORA Döbbeler & Poelt  
 +**leptogiophila** (Minks ex G. Winter) Nik. Hoffm. & Hafellner (Hoffmann & Hafellner 2000)

MYXOTRICHUM Kunze  
 \***bicolor** (Ehrenb. ex Pers.) Fr.  
 poluninii Apinis = *M. bicolor*

NADVORNIKIA Tibell  
 hawaiiensis (Tuck.) Tibell  
 peninsulae (R. C. Harris) I. Medeiros, Lücking & Lumbsch Syn.: *Myriotrema peninsulae* (Lücking et al. 2016)  
 sorediata R. C. Harris

NAETROCYPMBE Körber  
 #**atomarioides** (Müll. Arg.) R. C. Harris (Harris 1995a)  
 #**atractospora** (Zahlbr.) R. C. Harris (Harris 1995a)  
 #**cedrina** (Zahlbr.) R. C. Harris (Harris 1995a)  
 #**fraxini** (Massal.) R. C. Harris (Harris 1995a)  
 herrei K. Knudsen & Lendemer (Knudsen & Lendemer 2009b)  
 #**megalospora** (Lönnr.) R. C. Harris (Harris 1995a)  
 #**punctiformis** (Pers.) R. C. Harris (Harris 1995a)  
 #**quassiicola** (Fée) R. C. Harris (Harris 1995a)  
 saxicola (A. Massal.) R. C. Harris (Lendemer et al. 2010)  
 #massalongiana (Hepp) R. C. Harris A European species, listed here erroneously (Harris 1995a)

NANOSTICTIS M. S. Christ.  
 \***christiansenii** Etayo (Alstrup & Cole 1998)  
 \***pseudocyphellariae** Sherwood

NECTRIA (Fr.) Fr.  
 +**zonata** Seaver  
 \***lecanodes** Ces. (Esslinger & Egan 1995) = *Nectriopsis lecanodes*  
 \***parmeliae** (Berk. & M. A. Curtis) D. Hawksw. = *Ovicuculispora parmeliae*  
 \***rubefaciens** Ellis & Everh. = *Nectriopsis rubefaciens*



NECTRIELLA Nitschke ex Fuckel

\**anisospora* Lowen = *Pronectria anisospora*

NECTRIOPSIS Maire

\**cladoniicola* M. S. Cole & D. Hawksw. (Cole & Hawksworth 2001)

\**lecanodes* (Ces.) Diederich & Schroers Syn. *Nectria lecanodes* (Sérusiaux et al. 1999)

\**rubefaciens* (Ellis & Everh.) M. S. Cole & D. Hawksw. Syn.: *Nectria rubefaciens* (Cole & Hawksworth 2001)

\**parmeliae* (Berk. & M. A. Curtis) M. S. Cole & D. Hawksw. (Cole & Hawksworth 2001) = *Ovicuculispora parmeliae*

NEOBARYA Lowen

\**peltigerae* Lowen, Boqueras & Gomez-Bolea (Zhurbenko 2009c)

NEOCATAPYRENIUM Harada

*disparatum* Breuss (Breuss 2005)

NEOCOLEROA Petrak

\**inundata* (Vainio) Diederich (Harris & Lendemer 2009) Reported as uncertain

NEOFUSCELIA Essl. = XANTHOPARMELIA (Blanco et al. 2004b; but, see McCune et al 2014b)

*ahtii* (Essl.) Essl. = *Xanthoparmelia ahtii*

*atticoides* (Essl.) Essl. = *Xanthoparmelia atticoides*

*brunella* (Essl.) Essl. = *Xanthoparmelia brunella*

*chiricahuensis* (R. A. Anderson & W. A. Weber) Essl. = *Xanthoparmelia chiricahuensis*

*infrapallida* (Essl.) Essl. = *Xanthoparmelia infrapallida*

*loxodes* (Nyl.) Essl. = *Xanthoparmelia loxodes*

*occidentalis* (Essl.) Essl. = *Xanthoparmelia occidentalis*

*pulla* (Ach.) Essl. = *Xanthoparmelia pulla*, but not present in North America

*pustulosa* (Essl.) Essl. = *Xanthoparmelia pustulosa*

*subhosseana* (Essl.) Essl. = *Xanthoparmelia subhosseana*

*verruculifera* (Nyl.) Essl. = *Xanthoparmelia verruculifera*

NEOLAMYA Theissen & Sydow

\**peltigerae* (Mont.) Theissen & Sydow (Alstrup & Cole 1998)

\**xanthoparmeliae* Kocourk. (Kocourková 2009)

NEPHROMA Ach.

*arcticum* (L.) Torss.

*bellum* (Sprengel) Tuck.

*expallidum* (Nyl.) Nyl.

*helveticum* Ach. subsp. *helveticum* Syn.: *Nephromium helveticum*

*helveticum* subsp. *sipeanum* (Gyelnik) Goward & Ahti

*isidiosum* (Nyl.) Gyelnik

*laevigatum* Ach.

*occultum* Wetmore

*parile* (Ach.) Ach.

*resupinatum* (L.) Ach. Syn.: *Sticta drummondii*

*aspera* Tuck. = *N. helveticum* subsp. *helveticum*

*canadense* Räsänen = *N. helveticum* subsp. *sipeanum*

*filarszkyanum* Gyelnik = *N. bellum*

*helveticum* Ach. var. *sipeanum* (Gyelnik) Wetmore = *N. helveticum* subsp. *sipeanum*

*laevigatum* auct. non Ach. = *N. bellum*

*lusitanicum* Schaerer = *N. laevigatum* Ach. non auct.

*massachusettsianum* Gyelnik = *N. helveticum* subsp. *helveticum*

*plittii* Gyelnik = *N. helveticum* subsp. *helveticum*

rameum (Schaerer) A. Massal. (Fink 1935) = *N. resupinatum* (L.) Ach. (Wetmore 1960)  
 silvae-veteris Goward & Goffinet = *Lobaria silvae-veteris*  
 sipeanum Gyelnik = *N. helveticum* subsp. *sipeanum*  
 szatalae Gyelnik = *N. laevigatum*  
 subtomentellum (Nyl.) Gyelnik = *N. bellum*  
 washingtoniense Gyelnik = *N. laevigatum*

#### NEPHROMIUM Nyl. = NEPHROMA

*helveticum* (Ach.) Nyl. = *Nephroma helveticum*  
*tropicum* (Müll. Arg.) Zahlbr. (Gyelnik 1932) = *Nephroma helveticum* subsp. *helveticum*

#### NEPHROMOPSIS Müll. Arg.

*californica* Gyelnik = *Tuckermannopsis orbata* (Tucker 2013)  
*ciliaris* (Ach.) Hue = *Tuckermannopsis ciliaris*  
*platyphylla* (Tuck.) Herre = *Tuckermannopsis platyphylla*

#### NESOLECHIA A. Massal.

*cladoniscum* (Willey) Fink = apothecia of *Pycnothelia papillaria*  
 \**oxyspora* (Tul.) A. Massal. = *Phacopsis oxyspora*  
 \**oxysporella* (Nyl.) Arnold (Fink 1935) Identity uncertain (Esslinger & Tucker 2009)  
*papillariae* (Willey) Fink (Fink 1935) = apothecia of *Pycnothelia papillaria* (Rambold & Triebel 1992)  
 \**thallicola* (A. Massal.) A. Massal. = *Phacopsis thallicola*  
*vitellinaria* (Nyl.) Rehm (Fink 1935) = *Carbonea vitellinaria* (Scholz 2000)

#### NEUROPOGON Nees & Flotow = USNEA

*lambii* Imshaug = *Usnea lambii*  
*sulphureus* (J. König) Hellbom = *Usnea sphacelata*  
*sphacelatus* (R. Br.) Alstrup & E. S. Hansen = *Usnea sphacelata*

#### NIEBLA Rundel & Bowler

**cedrosensis** J. E. Marsh & T. H. Nash Syns.: *Vermilacinia cedrosensis*, *V. reptiloderma* (Bowler & Marsh 2004)  
**cephalota** (Tuck.) Rundel & Bowler Syns.: *Desmazieria cephalota*, *Ramalina cephalota*, *Vermilacinia cephalota* (Bowler & Marsh 2004)  
**ceruchis** Rundel & Bowler Syns.: *Desmazieria ceruchis*, *Ramalina ceruchis*, *Vermilacinia cerebra*, *V. corrugata*, *V. ceruchis*, *V. howei*, *V. leoni*, *V. leopardina*, *V. nylanderi*, *V. vesiculosa*, *V. zebrina* (Bowler & Marsh 2004)  
**ceruchoides** Rundel & Bowler Syns.: *Desmazieria ceruchoides*, *Vermilacinia ceruchoides*, *V. acicularis*, *V. pumila* (Bowler & Marsh 2004)  
**combeoides** (Nyl.) Rundel & Bowler Syns.: *Desmazieria combeoides*, *Ramalina combeoides*, *Vermilacinia combeoides* (Bowler & Marsh 2004)  
**homalea** (Ach.) Rundel & Bowler Syns.: *Desmazieria homalea*, *D. testudinaria*, *Ramalina homalea*, *R. testudinaria*  
**isidiascens** Bowler, J. E. Marsh, T. H. Nash & Riefner  
**laevigata** Bowler & Rundel Syns.: *Vermilacinia johncassadyi*, *V. laevigata*, *V. ligulata*, *V. paleoderma*, *V. rigida*, *V. rosei*, *V. varicosa* (Bowler & Marsh 2004)  
**polymorpha** Bowler, J. E. Marsh, T. H. Nash, & Riefner Syn.: *Vermilacinia polymorpha* (Bowler & Marsh 2004)  
**procera** Rundel & Bowler Syn.: *Vermilacinia procera* (Bowler & Marsh 2004)  
**ramosissima** Spjut (Spjut 1996, Knudsen & Wheeler 2015)  
**robusta** (R. Howe) Rundel Syns.: *Ramalina combeoides* var. *robusta*, *Vermilacinia robusta* (Bowler & Marsh 2004)  
**tuberculata** Riefner, Bowler, J. E. Marsh & T. H. Nash Syn.: *Vermilacinia tuberculata* (Bowler & Marsh 2004)  
*caespitosa* Spjut (Spjut 1996) = *N. homalea*  
*cornea* Spjut (Spjut 1996) = *N. homalea*

dactylifera Spjut (Spjut 1996) = *N. homalea*  
 disrupta (Nyl.) Spjut (Spjut 1996) = *N. homalea*  
 dissecta Spjut (Spjut 1996) = *N. homalea*  
 eburnea Spjut (Spjut 1996) = *N. homalea*  
 fimbriata Spjut (Spjut 1996) = *N. homalea*  
 flaccescens (Nyl.) Rundel & Bowler = a South American species, not in North America  
 flagelliforma Spjut (Spjut 1996) = *N. homalea*  
 halei Spjut (Spjut 1996) = *N. homalea*  
 infundibula Spjut (Spjut 1996) = *N. homalea*  
 laminaria Spjut (Spjut 1996) = *N. homalea*  
 palmeri Spjut (Spjut 1996) = *N. homalea*  
 siphonoloba Spjut (Spjut 1996) = *N. homalea*  
 sorediata Spjut (Spjut 1996) = *N. homalea*  
 sorocarpia Spjut (Spjut 1996) = *N. homalea*  
 testudinaria (Nyl.) Spjut (Spjut 1996) = *N. homalea*  
 undulata Spjut (Spjut 1996) = *N. homalea*

#### **NISSLIA** Auersw.

- \***cladoniicola** D. Hawksw. & W. Gams (Hansen & Alstrup 1995)
- \***keissleri** Zhurb. (Zhurbenko & Pino-Bodas 2017)
- \***lobariae** Etayo & Diederich (Zhurbenko & Dillman 2010)
- \***peltigericola** (D. Hawksw.) Etayo (Zhurbenko 2010)

#### **NIGROPUNCTA** D. Hawksw.

- \***rugulosa** D. Hawksw. (Alstrup & Cole 1998)

#### **NIGROVOTHELIUM** Lücking, M. P. Nelsen & Aptroot

**tropicum** (Ach.) Lücking, M. P. Nelsen & Aptroot Syns.: *Pyrenula tropica*, *Trypethelium tropicum* (Aptroot et al. 2016)

#### **NODOBRYORIA** Common & Brodo

**abbreviata** (Müll. Arg.) Common & Brodo Syns.: *Bryoria abbreviata*, *Alectoria abbreviata*  
**oregana** (Tuck.) Common & Brodo Syns.: *Bryoria oregana*, *Alectoria oregana*  
**subdivergens** (E. Dahl) Common & Brodo Syns.: *Bryoria subdivergens*, *Alectoria subdivergens*

#### **NORMANDINA** Nyl.

**pulchella** (Borrer) Nyl. Syn.: *Lauderlindsaya borrieri* (Muggia et al. 2010)

#### **OBRYZUM** Wallr.

- \***corniculatum** Wallr. (Diederich 2007b)

#### **OCELLULARIA** G. Meyer

**americana** Hale  
**aubertianoides** (Nyl.) Müll. Arg. (Lücking et al. 2011b)  
**cavata** (Ach.) Müll. Arg.  
**concolor** Meyen & Flotow (Harris 1995a)  
**erodens** (R. C. Harris) Kraichak, Lücking & Lumbsch Syns.: *Myriotrema erodens* (Lücking et al. 2016)  
**fissa** (Nyl.) Hale  
**laeviuscula** (Nyl.) Kraichak, Lücking & Lumbsch Syns.: *Leptotrema laeviusculum*, *Myriotrema laeviuscula* (Lücking et al. 2016)  
**obturascens** (Nyl.) Hale (Lücking et al. 2011b) Syn.: *Thelotrema bahianum* var. *obturascens*  
**postposita** (Nyl.) A. Frisch (Frisch 2006)  
**praestans** (Müll. Arg.) Hale Syn.: *Thelotrema praestans*  
**retispora** R. C. Harris  
**sanfordiana** (Zahlbr.) Hale Syn.: *Thelotrema sanfordianum* Possible synonym of *Ocellularia interposita* (Frisch 2006)



alborosella (Nyl.) R. Sant. = Chapsa alborosella  
 auberiana (Mont.) Hale = Stegobolus auberianus  
 bahiana (Ach.) A. Frisch North American reports are O. obturascens (Lücking et al. 2011)  
 carnea (Eckfeldt) Zahlbr. = Mazosia carnea  
 domingensis (Fée) Müll. Arg. = misidentification for North America  
 emersa (Kremp.) Müll. Arg. (Harris 1995a) = Rhabdodiscus emersus  
 floridensis Fink = Thelotrema porinoides  
 glaucophaena (Kremp.) Zahlbr. = Glaucotrema glaucophaenum  
 granulosa (Tuck.) Zahlbr. = Rhabdodiscus granulatus  
 interposita (Nyl.) Hale = misidentification for North America  
 lathraea (Tuck.) Zahlbr. = Thelotrema lathraeum  
 leiostoma (Tuck.) R. C. Harris = Redingeria leiostoma (Tuck.) A. Frisch, but not in North America (Frisch & Kalb 2006)  
 meiosperma (Nyl.) Hale = Melanotrema meiospermum  
 micropora (Mont.) Müll. Arg. = Myriotrema microporum  
 stictidea (Nyl.) Vězda = Trinathotrema stictideum  
 subtilis (Tuck.) Riddle = Thelotrema subtile  
 terebratula (Nyl.) Müll. Arg. = [Myriotrema clandestinum](#)

# **OCHROLECHIA** A. Massal.

**africana** Vainio  
**alaskana** (Versegghy) Kukwa (Kukwa 2009b)  
**androgyna** (Hoffm.) Arnold  
**antillarum** Brodo  
**arborea** (Kreyer) Almb.  
[brodoi](#) Kukwa (Brodo & McCune 2017)  
**bryophaga** (Erichsen) K. Schmitz & Lumbsch Syn.: Pertusaria bryophaga  
**farinacea** Howard  
**frigida** (Sw.) Lynge  
**gowardii** Brodo  
**grimmiae** Lynge  
**gyalectina** (Nyl.) Zahlbr.  
**inaequatula** (Nyl.) Zahlbr.  
**isidiata** (Malme) Versegghy (Lendemer & Harris 2014b)  
**juvenalis** Brodo  
**laevigata** (Räsänen) Versegghy  
**mahluensis** Räsänen (Brodo & Lendemer 2012; Knudsen 2012)  
**mexicana** Vainio  
**microstictoides** Räsänen (Brodo & Lendemer 2012)  
**montana** Brodo  
**oregonensis** H. Magn.  
**pseudopallescens** Brodo  
**rhodoleuca** (Th. Fr.) Brodo Syn.: Pertusaria rhodoleuca  
**splendens** Lumbsch & Messuti (Roemer et al. 2004)  
**subathallina** H. Magn.  
**subisidiata** Brodo  
**subpallescens** Versegghy  
**subplicans** (Nyl.) Brodo subsp. **subplicans** Syn.: Pertusaria subplicans  
**subplicans** subsp. **hultenii** (Erichsen) Brodo Syn.: Pertusaria hultenii  
**szatalaënsis** Versegghy  
**tartarea** (L.) A. Massal.  
 [Pertusaria **trachydactyla** Vainio]  
**trochophora** (Vainio) Oshio var. **trochophora**  
**trochophora** var. **pruinerosella** Brodo  
**turneri** (Sm.) Hasselrot (Brodo & Lendemer 2012)  
**upsaliensis** (L.) A. Massal.

**xanthostoma** (Sommerf.) K. Schmitz & Lumbsch Syn.: *Pertusaria xanthostoma*  
**yasudae** Vainio  
 alboflavescens (Wulfen) Zahlbr. = a European taxon, not in North America  
 apiculata Verseghe Mistakenly reported for North America  
 californica Verseghe = *O. oregonensis*  
 elisabethae-kolae Verseghe = *O. frigid*  
 frigida f. alaskana Verseghe = *O. alaskana*  
 geminipara (Th. Fr.) Vainio = *Pertusaria geminipara*  
 gonatodes (Ach.) Räsänen = *O. frigida*  
 groenlandica Verseghe = *O. frigida* (Kukwa 2009a)  
 pacifica H. Magn. = *Coccotrema pocillarium*  
 pallescens (L.) A. Massal. Not in North America  
 parella (L.) A. Massal. Not in North America  
 pennsylvanica Verseghe = *O. yasudae*  
 pseudotartarea (Vainio) Verseghe = *O. szatalaënsis* (Brodo 1992, Messuti & Lumbsch 2000)  
 pterulina (Nyl.) Howard = *O. frigida*  
 rhamni-purshianae E. Senft Identity uncertain  
 rosella (Müll. Arg.) Verseghe = *O. trochophora*  
 solediosa Howard = *O. szatalaënsis*  
 subviridis (Høeg) Erichsen Not in North America  
 tuckermanii Verseghe = *O. yasudae*

#### ODONTOTREMA Nyl. (Baloch et al. 2013b)

\*bryoriae Diederich & Etayo (Diederich et al. 2002) = *Sphaeropezia intermedia*  
 \*intermedium Diederich, Zhurb. & Etayo (Diederich et al. 2002) = *Sphaeropezia intermedia*  
 \*lecanorae Diederich & G. Marson (Diederich et al. 2002) = *Sphaeropezia lecanorae*  
 \*melaneliae Diederich & Zhurb. (Diederich et al. 2002) = *Sphaeropezia melaneliae*  
 \*ochrolechia Diederich, Holien & Zhurb. (Diederich et al. 2002) = *Sphaeropezia ochrolechia*  
 \*santessonii Zhurb., Etayo & Diederich (Zhurbenko 2012) = *Sphaeropezia santessonii*  
 \*sipei (Grumann) Diederich (Diederich et al. 2002) = *Sphaeropezia sipei*  
 \*thamnoliae Zhurb., Diederich & Etayo (Zhurbenko 2012) = *Sphaeropezia thamnoliae*

#### OMPHALARIA Girard & Dunal ex Nyl. = THYREA

girardii Durieu & Mont. = *Thyrea girardii*  
 kansana Tuck. = *Peccania kansana*  
 pulvinata (Schaerer) Nyl. (Claassen 1912) North American reports are *Thyrea confusa*  
 symphorea (Ach.) Tuck. = *Synalissa ramulosa*  
 umbella Tuck. = *Lempholemma umbella*

#### OMPHALINA Quélet

alpina (Britzelm.) Bresinsky & Stangl = *Lichenomphalia alpina*  
 ericetorum (Pers. : Fr.) M. T. Lange = *Lichenomphalia umbellifera*  
 hudsoniana (H. S. Jenn.) H. E. Bigelow = *Lichenomphalia hudsoniana*  
 luteovitellina (Pilát & Nannf.) M. T. Lange = *Lichenomphalia alpina*  
 \*peltigerina (Peck) P. Collin = *Arrhenia peltigerina*  
 umbellifera (L. : Fr.) Quélet = *Lichenomphalia umbellifera*  
 velutina (Quélet) Quélet = *Lichenomphalia velutina*

#### OMPHALODISCUS Schol. = UMBILICARIA

crustulosus (Ach.) Schol. = *Umbilicaria crustulosa*  
 decussatus (Vill.) Schol. = *Umbilicaria decussata*  
 krascheninnikovii (Savicz) Schol. = *Umbilicaria krascheninnikovii*, but N.A. reports are *U. polaris*  
 virginis (Schaerer) Schol. = *Umbilicaria virginis*

#### OMPHALODIUM Meyen & Flotow

arizonicum (Tuck.) Tuck. = *Omphalora arizonica*

**OMPHALORA** T. H. Nash & Hafellner

**arizonica** (Tuck.) T. H. Nash & Hafellner Syns.: *Lecanora arizonica*, *Omphalodium arizonicum*, *Parmelia arizonica*

**OPEGRAPHA** Ach.

\***agelaea** Fée (Ertz 2009)

**anguinella** (Nyl.) Ertz & Diederich (Ertz et al. 2009) Syns.: *Enterographa anguinella*, *Schismatomma pallidellum* auct.

\***anomea** Nyl. (Ertz et al. 2004)

**astraea** Tuck. Syn.: *Melaspilea octomera*

**aurantiaca** B. de Lesd. (Harris 1995a)

**bonplandii** Fée

\***buelliae** Zhurb. (Zhurbenko 2013)

**candida** Müll. Arg.

**corticola** Coppins & P. James (Tønsberg 2002)

\***diffracticola** R. C. Harris & Ladd (Harris & Ladd 2005, 2007)

**dolomitica** (Arnold) Clauzade & Cl. Roux ex Torrente & Egea (Lendemer et al. 2009b)

**erosa** Egea & Ertz (Ertz & Egea 2007))

\***foreaui** (Moreau) Hafellner & R. Sant. (Diederich 2003)

**fumosa** Coppins & P. James (Tønsberg 1997 [1998])

\***geographicola** (Arnold) Hafellner (Dillman et al. 2012)

**gyrophorica** F. Seavey & J. Seavey (Seavey et al. 2014)

\***hellespontica** Vondrák & Kocourk. (Kocourková & Knudsen 2009d)

**herbarum** Mont.

**keyensis** F. Seavey & J. Seavey (Seavey et al. 2014)

\***lamyi** (O. J. Rich. ex Nyl.) Triebel Syn.: *Leciographa lamyi*

**leucoplaca** Müll. Arg.

**levidensis** Willey (Fink 1935, Esslinger & Tucker 2009)

**lithyrga** Ach.

\***melanospila** Müll. Arg. (Diederich 2003)

**mesophlebia** Nyl. Syn.: *Melaspilea mesophlebia* (Perlmutter et al. 2015)

**microcycla** Tuck.

**moroiana** Lendemer (Lendemer 2009)

**niveoatra** (Borrer) J. R. Laundon

\***phaeophysciae** R. Sant., Diederich, Ertz & Christnach (Hafellner 2009)

**prosodea** Ach.

**protocetrarica** F. Seavey & J. Seavey (Seavey et al. 2014)

**protuberans** Zahlbr.

\***pulvinata** Rehm Syn.: *Opegraphoidea pulvinata*

**ravenelii** (Tuck.) Tehler Syns.: *Lecanactis ravenelii*, *Platygrapha ravenelii*, *Schismatomma ravenelii*

\***rupestris** Pers. Syn.: *Leciographa parasitica*

**sorediifera** P. James

\***sphaerophoricola** Isbrand & Alstrup

\***stereocaulicola** Alstrup & D. Hawksw. (Zhurbenko 2010)

\***thelotrematis** Coppins (Tønsberg 1997 [1998])

**umbellulariae** Zahlbr.

**vulgata** Ach.

**xerica** Torrente & Egea (Ertz & Egea 2007)

**atra** Pers. = *Arthonia atra* (Ertz et al. 2009)

**betulina** Sm. = *O. herbarum*

**bicolor** R. C. Harris & Lendemer (Harris & Lendemer 2005) = *Alyxoria bicolor* (Ertz & Tehler 2011)

**brattiae** Egea & Ertz (Ertz & Egea 2007) = *Lecanographa brattiae* (Ertz & Tehler 2011)

**calcarea** Turner ex Sm. & Sowerby = *Arthonia calcarea* (Ertz et al. 2009)

**cinerea** Chevall. = *O. vulgata*

**cypressi** R. C. Harris = *Vigneronia cypressi* (Ertz et al. 2015b)



demissa Tuck = Melaspilea demissa  
 diaphora (Ach.) Ach. = Alyxoria varia  
 diaphoroides Nyl. = Lecanographa grumulosa  
 filicina Mont. = Fouragea filicina (Frisch et al. 2014)  
 \*glaucomaria (Nyl.) Källsten ex Hafellner = \*Phacographa glaucomaria  
 gyrocarpa Flotow = Gyrographa gyrocarpa (Ertz et al. 2015b)  
 hassei Zahlbr. = Lecanographa hypothallina  
 herpetica (Ach.) Ach. = O. rufescens  
 herpetica var. subocellata Ach. (Fink 1935) = O. rufescens (Santesson et al. 2004)  
 hypothallina (Zahlbr.) Tehler = Lecanographa hypothallina  
 lichenoides Pers. = Alyxoria varia  
 longissima Müll. Arg. = Dimidiographa longissima (Ertz & Tehler 2011)  
 mesophlaebia Nyl. (Fink 1935) Orthographic variant of O. mesophlebia Nyl. = Melaspilea mesophlebia  
 mougeotii A. Massal. (Harris & Ladd 2005) = Alyxoria mougeotii  
 ochrocheila Nyl. = Alyxoria ochrocheila (Ertz & Tehler 2011)  
 oulocheila Tuck. = Dermiscellum oulocheila  
 \*physciaria (Nyl.) D. Hawksw. & Coppins (Cole & Hawksworth 2001) = Phacothecium varium (Hafellner 2009)  
 prosiliens Stirton = O. protuberans  
 pulicaris auct. = Alyxoria varia  
 \*quaternella Nyl. = O. anomea (Ertz et al. 2004)  
 rimalis Pers. ex Ach. = Alyxoria varia  
 rufescens Pers. = Pseudoschismatomma rufescens (Ertz et al. 2015b)  
 \*saxicola Ach. = O. rupestris  
 scaphella var. gemella (Eschw.) Eckfeldt (Fink 1935) = Melaspilea gemella  
 \*trassii S. Y. Kondr. & Coppins (Coppins & Kondratyuk 1998) = O. foreau  
 \*tribulodes Tuck. (Mohr 1901) = Melanographa tribulodes  
 varia Pers. = Alyxoria varia (Ertz & Tehler 2011)  
 viridis (Pers. ex Ach.) Behlen & Desberger = Zwackhia viridis (Ertz & Tehler 2011)  
 \*wetmorei M. S. Cole & D. Hawksw. (Cole & Hawksworth 2001) = O. anomea (Ertz et al. 2004)  
 zonata Körber (Sparrius 2004b) = Enterographa zonata (Ertz et al. 2009)

#### **OPEGRAPHOIDEA** Fink

\***staurothelicola** Fink (fide D. Ertz)  
 \*pulvinata (Rehm) Fink = Opegrapha pulvinata  
 \*quaternella (Nyl.) Fink = Opegrapha anomea

#### **OPHIOPARMA** Norman

**lapponica** (Räsänen) Hafellner & R. W. Rogers  
**rubricosa** (Müll. Arg.) S. Ekman Syns.: Bacidia rubricosa, B. herrei, Haematomma californicum  
**ventosa** (L.) Norman (May 1997)  
 herrei (Zahlbr.) Kalb & Staiger (Staiger & Kalb 1995) = O. rubricosa (Ekman 1996)

#### **ORCULARIA** (Malme) Kalb & Giralt (Kalb & Giralt 2011)

**insperata** (Nyl.) Kalb & Giralt Syn.: Amandinea insperata (Kalb & Giralt 2011)  
**placodiomorpha** (Vainio) Kalb & Giralt Syn.: Amandinea placodiomorpha, Buellia placodiomorpha (Kalb & Giralt 2011)

#### **ORPHNIOSPORA** Körber

**moriopsis** (A. Massal.) D. Hawksw. Syns.: Buellia atrata, B. moriopsis, B. coracina  
 atrata (Sm.) Poelt = O. moriopsis

#### **OVICUCULISPORA** Etayo (Etayo 2010)

\***parmeliae** (Berk. & M. A. Curtis) Etayo (Etayo 2010) Syns.: Nectria parmeliae, Nectriopsis parmeliae

OXNERIA S. Y. Kondr. & Kärnefelt (Kondratyuk & Kärnefelt 2003a, 2003b) = XANTHOMENDOZA (Lindblom 2006)

weberi S. Y. Kondr. & Kärnefelt = Xanthomendoza weberi (Lindblom 2006)

**PACHNOLEPIA** A. Massal. (Frisch et al. 2014)

**pruinata** (Pers.) Frisch & G. Thor Syn.: *Arthonia pruinata*

**PACHYOSPORA** A. Massal.

mutabilis (Ach.) A. Massal. = *Megaspora verrucosa*

verrucosa (Ach.) A. Massal. = *Megaspora verrucosa*

**PACHYPELTIS** Söchting, Arup & Frödén (Arup et al. 2013)

**cladodes** (Tuck.) Söchting, Frödén & Arup Syn.: *Caloplaca cladodes*, *Placodium cladodes*

**invadens** (Lynge) Söchting, Frödén & Arup Syn.: *Caloplaca invadens*

**PACHYPHIALE** Lönnr. = **GYALECTA** (Baloch et al. 2013a)

carneola (Ach.) Arnold = *Gyalecta carneola*

fagicola (Arnold) Zwackh = *Gyalecta fagicola*

gyalizella (Nyl.) S. Ekman = *Gyalecta gyalizella*

**PACHYPHYSIS** R. C. Harris & Ladd (Harris & Ladd 2005, 2007)

**ozarkana** R. C. Harris & Ladd (Harris & Ladd 2005, 2007)

**PALICELLA** Rodr. Flakus & Printzen (Rodriguez Flakus & Printzen 2014)

**filamentosa** (Stirton) Rodr. Flakus & Printzen Syn.: *Lecanora filamentosa*

**schizochromatica** (Pérez-Ortega, T. Sprib. & Printzen) Rodr. Flakus & Printzen Syn.: *Lecanora schizochromatica*

**PANNARIA** Delise

**conoplea** (Ach.) Bory

**elatio** Stirton (Jørgensen 2000c)

**hookeri** (Borrer ex Sm.) Nyl.

**lurida** (Mont.) Nyl. subsp. **lurida** Syn.: *Physma luridum*

**lurida** subsp. **quercicola** P. M. Jørg. (Jørgensen 2000c)

**lurida** subsp. **russellii** (Tuck.) P. M. Jørg. (Jørgensen 2000c)

**rubiginella** P. M. Jørg. & Sipman (Jørgensen 2005)

**rubiginosa** (Thunb.) Delise

**subfusca** P. M. Jørg. (Jørgensen 2000c)

**tavaresii** P. M. Jørg.

ahlneri P. M. Jørg. = *Fuscopannaria ahlneri*

crossophylla Tuck. = **Rockefelleria** crossophylla

cyanolepra Tuck. = *Fuscopannaria cyanolepra*

granatina (Sommerf.) Th. Fr. = *Euopsis granatina*

halei Tuck. = *Phyllopsora halei*

hypnorum (Vahl) Körber = *Psoroma hypnorum*

isidiata Degel. = **Tingiopsidium isidiatum** (Hafellner & Spribille 2016)

laceratula Hue = *Fuscopannaria laceratula*

lepidiota (Sommerf.) Th. Fr. = *Fuscopannaria praetermissa*

leucophaea (Vahl) P. M. Jørg. = *Vahliella leucophaea*

leucosticta Tuck. = *Fuscopannaria leucosticta*

leucostictoides Ohlsson = *Fuscopannaria leucostictoides*

malmei C. W. Dodge (Jørgensen 2000c) = misidentification of *P. rubiginella*

mariana (Fr.) Müll. Arg. = *Lepidocollema marianum* (Jørgensen 2000c, Ekman et al. 2014)

maritima P. M. Jørg. = *Fuscopannaria maritima*

mediterranea Tav. = *Fuscopannaria mediterranea*

melamphylla Tuck. = Lichinella melamphylla  
 microphylla "(Sw.)" Delise = Vahliella leucophaea  
 microphylla var. californica Tuck. = Vahliella californica  
 molybdaea (Pers.) Tuck. = Coccocarpia pellita  
 nigra (Hudson) Nyl. = Placynthium nigrum  
 nigrocincta (Mont.) Nyl. (Mohr 1901) = Parmeliella nigrocincta, but a probable misidentification for North America  
 pannosa Nyl. = Parmeliella pannosa  
 petersii (Nyl.) Tuck. = Placynthium petersii  
 pezizoides (Weber) Trevisan = Protopannaria pezizoides  
 pityrea auct. = P. conoplea  
 praetermissa Nyl. = Fuscopannaria praetermissa  
 pulveracea P. M. Jørg. & Henssen = Fuscopannaria pulveracea  
 rubiginosa var. lanuginosa (Hoffm.) Zahlbr. = P. conoplea  
 saubinetii (Mont.) Nyl. = Vahliella saubinetii  
 stenophylla Tuck. = Placynthium stenophyllum  
 stylophora Vainio = Lepidocollema stylophorum (Ekman et al. 2014)  
 sonomensis Tuck. = [Tingiopsidium sonomense \(Hafellner & Spribille 2016\)](#)  
 stellata (Tuck.) Nyl. = Coccocarpia stellata  
 triptophylla (Ach.) A. Massal. = Parmeliella triptophylla  
 waghornei Eckfeldt = identity uncertain, possibly Santessoniella arctophila

#### **PARABAGLIETTOA** Gueidan & Cl. Roux

**disjuncta** (Arnold) Krzewicka (McCune et al. 2014b)

#### **PARANECTRIA** Sacc.

**\*alstrupii** Zhurb. (Zhurbenko & Dillman 2010)

**\*oropensis** (Ces.) D. Hawk. & Piroz.

subsp. parvisetata M. S. Cole & D. Hawk. (Cole & Hawksworth 2001) = P. oropensis (Diederich 2003)

#### **PARAPARMELIA** Elix & J. Johnston

alabamensis (Hale & McCull.) Elix & J. Johnston = Canoparmelia alabamensis (Hale & McCull.) Elix (Elix 2001)

#### **PARASCHISMATOMMA** Ertz & Tehler (Ertz & Tehler 2012)

**ochroleucum** (Zahlbr.) K. Knudsen, Ertz & Tehler Syns.: Chiodecton ochroleucum, Platygrapha plurilocularis, Schismatomma pluriloculare (Ertz & Tehler 2011)

#### **PARATHELIUM** Nyl. = **PYRENULA**

cuyabense Malme = Pyrenula cuyabensis

emergens Nyl. ex Müll. Arg. = Pyrenula erumpens

martinicanum Vainio = Pyrenula adacta

microcarpum Riddle = Pyrenula microtheca

subferrugineum Malme = Pyrenula circumfiniens

#### **PARMELIA** Ach.

**barrenoae** Divakar, M. C. Molina & A. Crespo (Hodkinson et al. 2010)

**fertilis** Müll. Arg.

**fraudans** (Nyl.) Nyl.

**hygrophila** Goward & Ahti

**imbricaria** [Goward, Divakaar, M. C. Molina & A. Crespo \(Molina et al. 2016\)](#)

**mayi** Divakar, A. Crespo, M. C. Molina (Molina et al. 2011)

**neodiscordans** Hale

**omphalodes** (L.) Ach.

**pinnatifida** Kurok. (Crespo et al. 2004)



**pseudosulcata** Gyelnik  
**saxatilis** (L.) Ach.  
**skultii** Hale  
**squarrosa** Hale  
**sulcata** Taylor  
**sulymae** Goward, Divakar, M. C. Molina & A. Crespo (Molina et al. 2016)  
acanthifolia Pers. = Parmotrema cetratum  
abstrusa Vainio = Relicina abstrusa  
ahtii Essl. = Xanthoparmelia ahtii  
ajoensis T. H. Nash = Xanthoparmelia ajoensis  
alabamensis Hale & McCull. = Canoparmelia alabamensis  
albertana Ahti = Melanelixia albertana  
aleuritica Nyl. = Arctoparmelia centrifuga  
almquistii Vainio = Allantoparmelia almquistii  
alpicola Th. Fr. = Allantoparmelia alpicola  
amazonica Nyl. = Canoparmelia amazonica  
andreana Müll. Arg. = Flavopunctelia flaventior  
antillensis Nyl. = Parmotremopsis antillensis  
appalachensis W. L. Culb. = Punctelia appalachensis  
arizonica (Tuck.) Nyl. (Fink 1935) = Omphalora arizonica  
arnoldii Du Rietz = Parmotrema arnoldii  
arseneana Gyelnik = Xanthoparmelia novomexicana  
aspera A. Massal. = Melanohalea exasperata  
aspidota (Ach.) Poetsch = Melanohalea exasperata  
atrofusca (Schaerer) Crombie = Brodoa atrofusca  
atticoides Essl. = Xanthoparmelia atticoides  
aurulenta Tuck. = Myelochroa aurulenta  
austerodes Nyl. = Hypogymnia austerodes  
austrosinensis Zahlbr. = Parmotrema austrosinense  
baltimorensis Gyelnik & Főriss = Flavoparmelia baltimorensis  
birulae Elenkin var. grumosa Llano = Arctoparmelia separata  
bitteri Lynge = Hypogymnia bitteri  
bolliana Müll. Arg. = Punctelia bolliana  
borreri (Sm.) Turner = Punctelia borreri  
brunella Essl. = Xanthoparmelia brunella  
caperata (L.) Ach. = Flavoparmelia caperata  
caperata var. incorrupta (J. P. Moore) E. C. Berry = Flavopunctelia praesignis  
caroliniana Nyl. = Canoparmelia caroliniana  
catawbiensis (Degel.) Hale & M. Wirth = Hypotrachyna catawbiensis  
centrifuga (L.) Ach. = Arctoparmelia centrifuga  
cetrarioides (Delise ex Duby) Nyl. = Cetrelia cetrarioides  
cetrata Ach. = Parmotrema cetratum  
cetrata var. hypotropoides Nyl. ex Willey = Parmotrema hypotropum  
chiricahuensis R. A. Anderson & W. A. Weber = Xanthoparmelia chiricahuensis  
chlorochroa Tuck. = Xanthoparmelia chlorochroa  
chrysantha Tuck. = Parmotrema xanthinum (Lendemer 2016a)  
cirrhata Fr. = Everniastrum cirrhatum, but a misidentification for North America.  
cladonia (Tuck.) Du Rietz = Pseudevernia cladonia  
claudelii (Harm.) Vainio = Parmotrema stuppeum  
colpodes (Ach.) Stizenb. (Fink 1935) = Anzia colpodes  
commensurata Hale = Parmotrema commensuratum  
concreta Stizenb. Identity uncertain, see note under Flavoparmelia  
confoederata W. L. Culb. = Bulbothrix confoederata  
congensis Stein = Xanthoparmelia congensis, but not found in North America north of Mexico.  
congruens auct. = Pseudoparmelia uleana  
conspersa (Ehrh. ex Ach.) Ach. = Xanthoparmelia conspersa

conspersa var. subconspersa (Nyl.) Gyelnik = *Flavoparmelia rutidota*  
 conspurcata (Schaerer) Vainio = *Melanelixia subargentifera*  
 coralloidea (Meyen & Flotow) Vainio (Fink 1935) = *Leptogium coralloideum*, but N. Am. reports were apparently an unknown species of *Parmotrema* (Esslinger & Tucker 2009)  
 coronata Fée = *Bulbothrix coronata*  
 crinita Ach. = *Parmotrema crinitum*  
 cristifera Taylor = *Parmotrema cristiferum*  
 croceopustulata Kurok. = *Hypotrachyna croceopustulata*  
 crozalsiana B. de Lesd. ex Harm. = *Crespoa crozalsiana*  
 cryptochlorophaea Hale = *Canoparmelia cryptochlorophaea*  
 cubensis Nyl. = *Pseudoparmelia cubensis*  
 cumberlandia (Gyelnik) Hale = *Xanthoparmelia cumberlandia*  
 cylisphora (Ach.) Vainio = *Flavoparmelia caperata*  
 darrowi J. W. Thomson = *Flavopunctelia darrowi*  
 delavayi Hue = *Hypogymnia delavayi* (Hue) Rass., but a misidentification for North America  
 denalii Krog = *Montanelia disjuncta*  
 densirhizinata Kurok. = *Hypotrachyna densirhizinata*  
 dentella Hale & Kurok. = *Hypotrachyna dentella*  
 dierythra Hale = *Xanthoparmelia dierythra*  
 diffractaica Essl. = *Parmotrema diffractaicum*  
 digitata Lynge = *Hypotrachyna physcioides* (Nyl.) Hale, but a misidentification for North America (?)  
 dilatata Vainio = *Parmotrema dilatatum*  
 disjuncta Erichsen = *Montanelia disjuncta*  
 dissecta Nyl. = *Hypotrachyna minarum*  
 dissensa T. H. Nash = *Xanthoparmelia dissensa*  
 dominicana Vainio = *Parmotrema dominicanum*  
 dubia (Wulfen) Schaerer = *Punctelia subrudecta* (Nyl.) Krog, but a misidentification for North America  
 duplicata var. douglasicola Gyelnik = *Hypogymnia physodes*  
 elegantula (Zahlbr.) Szatala = *Melanohalea elegantula*  
 elongata J. Hillmann = *Hypogymnia duplicata* (Spribille et al. 2010)  
 encausta (Sm.) Nyl. = *Brodoa intestiniformis*, but this species is not found in North America  
 endosulphurea (Hillm.) Hale = *Parmotrema endosulphureum*  
 endoxantha G. Merr. = *Pseudoparmelia uleana*  
 ensifolia Kurok. = *Hypotrachyna ensifolia*  
 enteromorpha Ach. = *Hypogymnia enteromorpha*  
 epiclada Hale = *Parmotrema submarginale*  
 erecta E. C. Berry = *Parmotrema perforatum*  
 eurysaca Hue = *Parmotrema eurysacum*  
 exasperata De Not. = *Melanohalea exasperata*  
 exasperatula Nyl. = *Melanohalea exasperatula*  
 eximbricata (Gyelnik) Hale & Kurok. = *Relicina eximbricata*  
 finkii Zahlbr. = *Myelochroa obsessa*  
 flaventior Stirton = *Flavopunctelia flaventior*  
 flavicans (Tuck.) Tuck. = *Flavoparmelia caperata*  
 formosana Zahlbr. = *Hypotrachyna osseoalba*  
 frondifera G. Merr. = *Punctelia bolliana*  
 fuliginosa (Wibel) Nyl. (Fink 1935) = *Melanelixia fuliginosa*, but North American reports are misidentifications (Leavitt et al. 2012)  
 furfuracea (L.) Ach. = *Pseudevernia intensa* and *P. consocians* for North American records  
 galbina Ach. = *Myelochroa galbina*  
 glabra (Schaerer) Nyl. North American records are *Melanelixia californica*  
 glabratula (Lamy) Nyl. = *Melanelixia glabratula*  
 glabroides Essl. = *Melanelixia glabroides*  
 goebelii Zenker North American reports are *Bulbothrix scortella* (Benatti & Elix 2012)  
 gondylophora Hale = *Hypotrachyna gondylophora*

graminicola B. de Lesd. = *Punctelia graminicola*  
 granulosa Lynge = *Montanelia disjuncta*  
 hababiana Gyelnik = *Parmotrema hababianum*  
 haitiensis Hale = *Parmotrema haitiense*  
 halei Ahti = *Melanohalea halei*  
 halseyana Tuck. (Fink 1935) = *Arctoparmelia centrifuga* (Hale & DePriest 1999, Esslinger & Tucker 2009)  
 herreana Zahlbr. = *Flavoparmelia caperata*  
 herrei Zahlbr. = *Parmotrema herrei*  
 horrescens Taylor = *Hypotrachyna horrescens*  
 huachucensis T. H. Nash = *Xanthoparmelia huachucensis*  
 hubrichtii E. C. Berry = *Hypotrachyna minarum*  
 hypoleucina J. Steiner = *Parmotrema hypoleucinum*  
 hypoleucites Nyl. = *Punctelia hypoleucites*  
 hypomelaena Hale = *Xanthoparmelia hypomelaena*  
 hypopsila Müll. Arg. = *Xanthoparmelia hypopsila*, but North American records are *X. angustiphylla*  
 hypotropa Nyl. = *Parmotrema hypotropum*  
 hypotropa var. soledata Müll. Arg. (Fink 1935) = *Parmotrema hypotropum* (Esslinger & Tucker 2009)  
 hypotropoides Nyl. ex Willey = *Parmotrema perforatum*  
 hypotrypodes (Nyl.) Willey (Fink 1935) Apparent orthographic error for *P. hypotropoides* (Esslinger & Tucker 2009)  
 imbricatula Zahlbr. = *Hypotrachyna imbricatula*  
 incorrupta J. P. Moore = *Flavopunctelia praesignis*  
 incurva (Pers.) Fr. = *Arctoparmelia incurva*  
 infrapallida Essl. = *Xanthoparmelia infrapallida*  
 infumata Nyl. = *Melanohalea infumata*  
 internexa Nyl. = *Parmotrema internexum*  
 intestiniformis (Vill.) Ach. = *Brodoa intestiniformis*, but North American reports are *B. oroarctica*  
 ioanis-simae Gyelnik = *Xanthoparmelia taractica*, but western North American records are probably *Xanthoparmelia coloradoensis*  
 isidiata (Anzi) Gyelnik = *Xanthoparmelia conspersa*  
 isidiosa (Müll. Arg.) Hale = misidentification for North America  
 isidiotyla Nyl. = *Xanthoparmelia loxodes*  
 joranadia T. H. Nash = *Xanthoparmelia joranadia*  
 kernstockii (Lynge) Zahlbr. = *Flavopunctelia flaventior*  
 kerguelensis A. Wilson = chemotype of *Parmelia saxatilis*  
 kerguelensis auct. N. Am. = *Parmelia pseudosulcata*  
 kurokawae Hale = *Xanthoparmelia lavicola*  
 laciniatula (Flagey) Zahlbr. (Eyderdam 1960) = misidentification for North America  
 laevigata (Sm.) Ach. = *Hypotrachyna laevigata*  
 laevigatula Nyl. = *Bulbothrix laevigatula*  
 lanata (L.) Wallr. = *Pseudephebe pubescens*  
 latissima Fée = *Parmotrema latissimum*, but reports are a misidentification for North America.  
 lecanorica Hale = *Xanthoparmelia lecanorica*, but reports are a misidentification for North America  
 leucochlora Tuck. = *Pseudoparmelia cubensis*  
 lineola E. C. Berry = *Xanthoparmelia lineola*  
 livida Taylor = *Hypotrachyna livida*  
 lobulifera Degel. = *Hypotrachyna imbricatula*  
 lobulifera var. insensitiva Degel. = *Hypotrachyna ensifolia*  
 lobulifera var. luteoreagens Degel. = *Hypotrachyna imbricatula*  
 lobulifera var. sanguineoreagens Degel. = *Hypotrachyna prolongata*  
 lophyrea Ach. (Fink 1935) = *Hypogymnia lophyrea*  
 louisianae Hale = *Parmotrema louisianae*  
 loxodes Nyl. = *Xanthoparmelia loxodes*  
 madagascariacea (Hue) Abbayes = *Parmotrema xanthinum* (Lendemer 2016a)  
 mandshurica Asahina = *Flavopunctelia soledica*



margaritata Hue = Parmotrema margaritatum  
 martinicana Nyl. = Canoparmelia martinicana  
 maxima Hue = Parmotrema stuppeum  
 mellissii C. W. Dodge = Parmotrema mellissii  
 mesogens Nyl. (Fink 1935) Apparent typographic error for P. mesogenes Nyl = Parmotrema  
 mesogenes, a misidentification for North America (Esslinger & Tucker 2009)  
 metarevoluta Asahina = Myelochroa metarevoluta  
 mexicana Gyelnik = Xanthoparmelia mexicana  
 michauxiana Zahlbr. = Parmotrema submarginale  
 molliuscula Ach. = misidentification for North America  
 monticola J. P. Dey = Xanthoparmelia monticola  
 mordenii Hale = Parmotrema mordenii  
 mougeotii Schaerer = Xanthoparmelia mougeotii  
 multispora A. Schneider = Melanohalea multispora  
 negativa Gyelnik = Flavoparmelia caperata  
 neoconspersa Gyelnik = Xanthoparmelia neoconspersa  
 nigropsoromifera T. H. Nash = Xanthoparmelia nigropsoromifera  
 njalensis C. W. Dodge = Bulbothrix scortella  
 novomexicana Gyelnik = Xanthoparmelia novomexicana  
 obsessa Ach. = Myelochroa obsessa  
 occidentalis Essl. = Xanthoparmelia occidentalis  
 olivacea (L.) Ach. = Melanohalea olivacea  
 olivaceoides Krog = Melanohalea olivaceoides  
 olivaria (Ach.) Th. Fr. = Cetrelia olivetorum  
 olivetorum Nyl. = Cetrelia olivetorum  
 omphalodes subsp. glacialis Skult = P. skultii  
 omphalodes subsp. pinnatifida (Kurok.) Skult = P. pinnatifida  
 oncodes Tuck. (Fink 1935) Name not located in any available source (Esslinger & Tucker 2009)  
 oostingii J. P. Dey = Hypotrachyna oostingii  
 oregana Gyelnik = Hypogymnia physodes  
 panniformis (Nyl.) Vainio = Montanelia panniformis  
 perfoliata (Jacq.) Ach. (Mohr 1901) = misspelling of P. perforata  
 perforata (Jacq.) Ach. = Parmotrema perforatum  
 perlata (Hudson) Ach. = Parmotrema perlatum  
 permaculata Hale = Parmotrema eurysacum  
 perreticulata (Räsänen) Hale = Punctelia perreticulata  
 pertusa (Schränk) Schaerer = Menegazzia terebrata  
 phaea Tuck. (Fink 1935) = Physcia phaea  
 physodes (L.) Ach. = Hypogymnia physodes  
 piedmontensis Hale = Xanthoparmelia piedmontensis  
 plittii Gyelnik = Xanthoparmelia plittii  
 praesignis Nyl. = Flavopunctelia praesignis  
 praesorediosa Nyl. = Parmotrema praesorediosum  
 preperforata W. L. Culb. = Parmotrema [hypoleucinum](#)  
 proboscidea Tayl. (Fink 1935) = Parmotrema crinitum (Hale & DePriest 1999)  
 producta (Hale) J. P. Dey = Hypotrachyna producta  
 proluxa (Ach.) Carroll = Neofuscelia pulla, but a misidentification for North America.  
 prolongata Kurok. = Hypotrachyna prolongata  
 pseudoborreri Asahina = Punctelia borreri  
 psoromifera Kurok. = Xanthoparmelia psoromifera  
 pubescens (L.) Vainio = Pseudephebe pubescens  
 pulla Ach. = Xanthoparmelia pulla (Ach.) Crespo et al., but a misidentification for North America  
 pulvinata Fée = Hypotrachyna pulvinata  
 pustulifera Hale = Hypotrachyna pustulifera  
 pustulosa Essl. = Xanthoparmelia pustulosa  
 quercina (Willd.) Vainio North American reports are Parmelina coleae

rachista Hale = *Hypotrachyna prolongata*  
 rampoddensis Nyl. = *Parmotrema rampoddense*  
 recipienda Nyl. = *Parmotrema subcaperatum* (Kremp.) Hale., but a misidentification for North America  
 reddenda Stirton = *Punctelia reddenda*  
 relicina Fr. = *Relicina relicinula* (Müll. Arg.) Hale, but a misidentification for North America  
 reparata Stirton = *Parmotrema cetratum*  
 reticulata Taylor = *Parmotrema reticulatum*  
 revoluta Flörke = *Hypotrachyna revoluta*  
 rigida Lynge = *Parmotrema subrigidum* (N. Am. records only)  
 robusta Degel. = *Parmotrema robustum*, but North American records are *Parmotrema gardneri*  
 rockii Zahlbr. = *Hypotrachyna rockii*  
 rudecta Ach. = *Punctelia rudecta*  
 rutidota Hooker f. & Taylor = *Flavoparmelia rutidota*  
 salacinifera Hale = *Canoparmelia salacinifera*  
 santae-crucis Vainio = *Parmotrema praesorediosum*  
 saximontana R. A. Anderson & W. A. Weber = *Montanelia saximontana*  
 scortea (Ach.) Ach. (Fink 1935) = *Parmelina tiliacea* (Hoffm.) Hale, but an apparent misidentification for North America  
 scortella Nyl. = *Bulbothrix scortella*  
 semansiana W. L. Culb. & C. F. Culb. = *Punctelia graminicola*  
 separata Th. Fr. = *Arctoparmelia separata*  
 septentrionalis (Lynge) Ahti = *Melanohalea septentrionalis*  
 sibirica Zahlbr. = *Allantoparmelia sibirica*  
 silvestris Degel. = *Myelochroa aurulenta*  
 simulans Hale = *Parmotrema simulans*  
 sinuosa (Sm.) Ach. = *Hypotrachyna sinuosa*  
 sipeana Gyelnik = *Menegazzia terebrata*  
 sorediata (Ach.) Th. Fr. = *Montanelia sorediata*  
 soredica Nyl. = *Flavopunctelia soredica*  
 sorediosa Almb. = *Montanelia sorediata*  
 sorocheila Vainio = *Hypotrachyna sorocheila*, but North American records apparently refer to *E. catawbiense*  
 sphaerospora Nyl. (North American records) = *Pseudoparmelia uleana*  
 sphaerosporella Müll. Arg. = *Ahtiana sphaerosporella*  
 spumosa Asahina = *Parmelinopsis spumosa*  
 stenophylla (Ach.) Du Rietz = *Xanthoparmelia stenophylla*  
 stictica (Duby) Nyl. = *Punctelia stictica*  
 stuppea Taylor = *Parmotrema stuppeum*  
 stygia (L.) Ach. = *Melanelia stygia*  
 subargentifera Nyl. = *Melanelixia subargentifera*  
 subarnoldii Abbayes = *Parmotrema subarnoldii*, but a misidentification for North America north of Mexico  
 subaurifera Nyl. = *Melanelixia subaurifera*  
 subcapitata Nyl. ex Hasse = *Flavoparmelia subcapitata*  
 subcentrifuga Oxner = *Arctoparmelia subcentrifuga*  
 subcrinita auct. = *Parmotrema ultralucens*  
 subcrinita Nyl. = *Parmotrema subtinctorium*  
 subdecipiens Vainio = *Xanthoparmelia subdecipiens*  
 subelegantula Essl. = *Melanohalea subelegantula*  
 subhosseana Essl. = *Xanthoparmelia subhosseana*  
 subinvoluta Hale = *Parmotrema rampoddense*  
 subsidiosa (Müll. Arg.) C. W. Dodge = *Parmotrema subsidiosum*  
 sublaevigata (Nyl.) Nyl. = *Hypotrachyna sublaevigata*, but a misidentification for North America (Hale 1979)  
 submarginalis (Michaux) Nyl. (Fink 1935) = *Parmotrema submarginale* (Hale & DePriest 1999)

subobscura Vainio = Hypogymnia subobscura  
 subolivacea Nyl. = Melanohalea subolivacea  
 subpraesignis Nyl. = Punctelia subpraesignis  
 subquercifolia Hue = Myelochroa galbina  
 subramigera Gyelnik = Xanthoparmelia subramigera  
 subrudecta Nyl. = Punctelia subrudecta (Nyl.) Krog, but a misidentification for North America (Lendemer & Hodgkinson 2010)  
 subrugata Kremp. = misidentification for North America  
 substygia Räsänen North American reports are Montanelia saximontana or M. secwepemc  
 subsumpta Nyl. = Parmotrema subsumptum  
 subtinctoria Zahlbr. = Parmotrema subtinctorium  
 sulphurata Nees & Flotow = Parmotrema sulphuratum  
 sulphorosa (Tuck.) Fink (Fink 1935) = Myelochroa galbina (Hale & DePriest 1999)  
 swinscowii Hale = Parmelinopsis swinscowii  
 taractica Kremp. = Xanthoparmelia taractica, but see note there  
 tasmanica Hooker f. & Taylor = Xanthoparmelia tasmanica  
 texana Tuck. = Canoparmelia texana  
 thysanota Kurok. = Hypotrachyna thysanota  
 tinctina Maheu & A. Gillet = Xanthoparmelia tinctina, but not found in North America  
 tinctorum Delise ex Nyl. = Parmotrema tinctorum  
 trabeculata Ahti = Melanohalea trabeculata  
 trichotera Hue = Parmotrema perlatum  
 tuberculata Gyelnik = Xanthoparmelia novomexicana  
 tubulosa (Schaerer) Bitter = Hypogymnia tubulosa  
 tucsonensis T. H. Nash = Xanthoparmelia tucsonensis  
 uleana Müll. Arg. = Pseudoparmelia uleana  
 ulophyllodes (Vainio) Savicz = Flavopunctelia soledica  
 ultralucens Krog = Parmotrema ultralucens  
 verruculifera Nyl. = Xanthoparmelia verruculifera  
 virginica Hale = Hypotrachyna virginica  
 vittata (Ach.) Röhl. = Hypogymnia vittata  
 weberi Hale = Xanthoparmelia weberi  
 wyomingica (Gyelnik) Hale = Xanthoparmelia wyomingica  
 xanthina (Müll. Arg.) Vainio = Parmotrema xanthinum  
 xanthomela Nyl. (Fink 1935) Typographic error for P. xanthomyela = Hypotrachyna endochlora (Leighton) Hale, a misidentification for North America  
 zollingeri Hepp = Parmotrema zollingeri

#### **PARMELIELLA Müll. Arg.**

**appalachensis** P. M. Jørg. (Jørgensen 2000c)  
**corallinoides** (Hoffm.) Zahlbr.  
**pannosa** (Sw.) Nyl. Syn.: Pannaria pannosa  
**parvula** P. M. Jørg. (Jørgensen 2000c)  
**runderatula** (Nyl.) Hasse  
**triptophylla** (Ach.) Müll. Arg. Syn.: Pannaria triptophylla  
 arctophila (Th. Fr.) Malme = Santessoniella arctophila (Henssen 1997)  
 cheiroloba Müll. Arg. = Fuscopannaria cheiroloba  
 crossophylla (Tuck.) G. Merr. & Burnham = [Rockefelleria](#) crossophylla  
 cyanolepra (Tuck.) Herre = Fuscopannaria cyanolepra  
 mariana (Fr.) P. M. Jørg. & D. J. Galloway = Lepidocollema marianum (Ekman et al. 2014)  
 lepidiota (Sommerf.) Vainio = Fuscopannaria praetermissa  
 microphylla "(Sw.)" Müll. Arg. = Vahliella leucophaea  
 plumbea (Lightf.) Vainio = Pectenium plumbea (Ekman et al. 2014)  
 praetermissa (Nyl.) P. James = Fuscopannaria praetermissa  
 saubinetii (Mont.) Zahlbr. = Vahliella saubinetii



stellata (Tuck.) Zahlbr. = *Coccocarpia stellata*  
stylophora (Vainio) P. M. Jørg. (Jørgensen 2000c) = *Lepidocollema stylophorum* (Ekman et al. 2014)

#### **PARMELINA** Hale

**coleae** Argüello & A. Crespo (Argüello et al. 2007a, 2007b)  
**yalungana** (Zahlbr.) P. R. Nelson & Kepler (Nelson et al. 2013)  
antillensis (Nyl.) Hale = *Parmotremopsis antillensis*  
aurulenta (Tuck.) Hale = *Myelochroa aurulenta*  
dissecta (Nyl.) Hale = *Hypotrachyna minarum*  
galbina (Ach.) Hale = *Myelochroa galbina*  
horrescens (Taylor) Hale = *Hypotrachyna horrescens*  
metarevoluta (Asahina) Hale = *Myelochroa metarevoluta*  
minarum (Vainio) Skorepa = *Hypotrachyna minarum*  
obsessa (Ach.) Hale = *Myelochroa obsessa*  
quercina (Willd.) Hale North American reports are *P. coleae*  
spumosa (Asahina) Hale = *Hypotrachyna spumosa*  
swinscowii (Hale) Hale = *Hypotrachyna swinscowii*  
tiliacea (Hoffm.) Hale North American reports are misidentifications

#### **PARMELINOPSIS** Elix & Hale = **HYPOTRACHYNA** (Divakar et al. 2013)

cryptochlora (Vainio) Elix & Hale = *Hypotrachyna cryptochlora*  
horrescens (Taylor) Elix & Hale = *Hypotrachyna horrescens*  
minarum (Vainio) Elix & Hale = *Hypotrachyna minarum*  
spumosa (Asahina) Elix & Hale = *Hypotrachyna spumosa*  
swinscowii (Hale) Elix & Hale = *Hypotrachyna swinscowii*

#### **PARMELIOPSIS** Nyl.

**ambigua** (Wulfen) Nyl. Syn.: *Foraminella ambigua*  
**capitata** R. C. Harris ex J. W. Hinds & P. L. Hinds (Hinds & Hinds 1998)  
**esorediata** (Degel.) Nordnes (McCarthy et al. 2012)  
**hyperopta** (Ach.) Arnold Syn.: *Foraminella hyperopta*  
**subambigua** Gyelnik Syn.: *Foraminella subambigua*  
aleurites (Ach.) Nyl. = *Imshaugia aleurites*  
diffusa (Weber) Riddle = *P. hyperopta*  
halei (Tuck.) Hale = *P. subambigua*  
placorodia (Ach.) Nyl. = *Imshaugia placorodia*  
**PARMENTARIA** Fée = **PYRENULA**  
astroidea Fée = *Pyrenula astroidea*  
[*Pleurotheliopsis australiensis* (Müll. Arg.) Zahlbr.] = ?  
nana (Zahlbr.) R. C. Harris = *Anthracotheceium nanum*  
rappii Zahlbr. = *Pyrenula leucostoma* Ach.  
ravenelii (Tuck.) Müll. Arg. = *Pyrenula ravenelii*

#### **PARMOTREMA** A. Massal.

**arnoldii** (Du Rietz) Hale Syn.: *Parmelia arnoldii*  
**austrosinense** (Zahlbr.) Hale Syn.: *Parmelia austrosinensis*  
**cetratum** (Ach.) Hale Syn.: *Parmelia cetrata*, *P. herrei*, *Rimelia cetrata* (Blanco et al. 2005)  
**commensuratum** (Hale) Hale Syn.: *Parmelia commensuratum*, *Rimelia commensuratum*  
**conferendum** Hale Syn.: *Canomaculina conferenda*, *Rimeliella conferenda*  
**crinitum** (Ach.) M. Choisy Syn.: *Parmelia crinita*, *Parmelia proboscidea*  
**cristiferum** (Taylor) Hale Syn.: *Parmelia cristifera*  
**despectum** Kurok. (Kurokawa 2001)  
**diffractaicum** (Essl.) Hale Syn.: *Parmelia diffractaica*, *Rimelia diffractaica*  
**dilatatum** (Vainio) Hale Syn.: *Parmelia dilatata*  
**dominicanum** (Vainio) Hale Syn.: *Parmelia dominicana*  
**endosulphureum** (Hillm.) Hale Syn.: *Parmelia endosulphurea*

**eurysacum** (Hue) Hale Syn.: *Parmelia eurysaca*, *P. permaculata*  
**gardneri** (C. W. Dodge) Sérus. Syn.: *Parmelia robusta*  
**hababianum** (Gyelnik) Hale Syn.: *Parmelia hababiana*  
**haitiense** (Hale) Hale Syn.: *Parmelia haitiensis*, *Canomaculina haitiensis*  
**herrei** (Zahlbr.) Spielmann & Marcelli (Marcelli et al. 2011)  
**hypoleucinum** (J. Steiner) Hale Syn.: *Parmelia hypoleucina*  
**hypotropum** (Nyl.) Hale Syn.: *Parmelia hypotropa*, *Parmelia hypotropa* var. *sorediata*, *P. cetrata* var. *hypotropoides*  
**internexum** (Nyl.) Hale Syn.: *Parmelia internexa*  
**louisianae** (Hale) Hale Syn.: *Parmelia louisianae*  
**margaritatum** (Hue) Hale Syn.: *Parmelia margaritata*  
**mellissii** (C. W. Dodge) Hale Syn.: *Parmelia mellissii*  
**mordenii** (Hale) Hale Syn.: *Parmelia mordenii*  
**neotropicum** Kurok. ex Hale Syn.: *Canomaculina neotropica*, *Rimeliella neotropica*  
**overeemii** (Zahlbr.) Elix (Lendemer & Harris 2016)  
**perforatum** (Jacq.) A. Massal. Syn.: *Parmelia perforata*, *P. erecta*, *P. hypotropoides*  
**perlatus** (Hudson) M. Choisy Syn.: *Parmelia perlata*, *P. trichotera*  
**praesorediosum** (Nyl.) Hale Syn.: *Parmelia praesorediosa*, *P. santae-crucis*  
**rampoddense** (Nyl.) Hale Syn.: *Parmelia rampoddensis*, *P. subinvoluta*  
**reticulatum** (Taylor) M. Choisy Syn.: *Parmelia reticulata*, *Rimelia reticulata*  
**rubifaciens** (Hale) Hale  
**simulans** (Hale) Hale Syn.: *Parmelia simulans*, *Rimelia simulans*  
**stuppeum** (Taylor) Hale Syn.: *Parmelia stuppea*, *P. claudelii*, *P. maxima*  
**subisidiosum** (Müll. Arg.) Hale Syn.: *Parmelia subisidiosa*, *Rimelia subisidiosa*  
**submarginale** (Michaux) DePriest & B. Hale Syn.: *Parmelia michauxiana*, *P. epiclada* (DePriest & Hale 1998), *P. submarginalis*  
**subrigidum** Egan (Egan et al. 2005)  
**subsumptum** (Nyl.) Hale Syn.: *Canomaculina subsumpta*, *Rimeliella subsumpta*, *Parmelia subsumpta*  
**subtinctorium** (Zahlbr.) Hale Syn.: *Canomaculina subtinctoria*, *Rimeliella subtinctoria*, *Parmelia subtinctoria*  
**sulphuratum** (Nees & Flotow) Hale Syn.: *Parmelia sulphurata*  
**tinctorum** (Delise ex Nyl.) Hale Syn.: *Parmelia tinctorum*  
**ultralucens** (Krog) Hale Syn.: *Parmelia ultralucens*, *P. subcrinita* auct. non Nyl.  
**wrightii** L. I. Ferraro & Elix (Seavey & Seavey 2012)  
**xanthinum** (Müll. Arg.) Hale Syn.: *Parmelia xanthina*, *P. chrysantha*, *P. madagascariacea*  
**zollingeri** (Hepp) Hale Syn.: *Parmelia zollingeri* [Uncertain for North America \(Lendemer & Harris 2016\)](#)  
 chinense (“Osbeck”) Hale & Ahti = *P. perlatus* (Hawksworth 2004)  
 crozalsianum (B. de Lesd. ex Harm.) Hawksworth = *Crespoa crozalsiana* (Lendemer & Hodkinson 2012)  
 madagascariaceum (Hue) Hale = *P. xanthinum* (Lendemer 2016a)  
 michauxianum (Zahlbr.) Hale = *P. submarginale*  
 ochrocrinitum Elix & J. Johnst. Erroneously mapped for North America (Michlig & Ferraro 2010)  
[preperforatum \(W. L. Culb.\) Hale = \*Parmotrema hypoleucinum\* \(Widhelm et al. 2017\)](#)  
 rigidum (Lynge) Hale North American records are *P. subrigidum*  
 robustum (Degel.) Hale North American records are *P. gardneri*

#### **PARMOTREMOPSIS** Elix & Hale

**antillensis** (Nyl.) Elix & Hale Syn.: *Parmelina antillensis*, *Parmelia antillensis*

#### **PARMULARIA** Nilson

*brouardii* B. de Lesd. = a *Lecanora* sp.

*novomexicana* B. de Lesd. = Identity uncertain

#### **PARVOPLACA** Arup, Søchting & Frödén (Arup et al. 2013)



**nigroblastidiata** Arup, Halici & Vondrák (Arup et al. 2015)  
**tirolensis** (Zahlbr.) Arup, Søchting & Frödén Syn.: *Caloplaca subolivacea*, *C. tirolensis*

**PATRICIOMYCES** D. Hawksw.

\***valentinianus** D. Hawks. (Cole & D. Hawksworth 2001)

**PAULIA** Fée

**pyrenoides** (Nyl.) Henssen Syn.: *Thyrea pyrenoides*

**PECCANIA** A. Massal. ex Arnold

**arizonica** Tuck. ex Herre

**cernohorskyi** (Servít) Scheiman-Cseika, Cseika & Guttová (Knudsen et al. 2017)

**corallina** Hazsl. (Knudsen et al. 2017)

**coralloides** (A. Massal.) A. Massal. (McCune 2017)

**kansana** (Tuck.) Forssell Syn.: *Omphalaria kansana*

**kansuensis** (H. Magn.) M. Schultz ined. (McCune et al. 2014b)

**subnigra** (B. de Lesd.) Wetmore Syn.: *Placynthium subnigrum*, *Synalissa subnigra*

**texana** (Tuck.) Wetmore Syn.: *Synalissa texana*

**tiruncula** (Nyl.) Henssen (Tretiach & Schultz 2007)

**PECTENIA** P. M. Jørg., L. Lindblom, Wedin & S. Ekman (Ekman et al. 2014)

**plumbea** (Lightf.) P. M. Jørg., L. Lindblom, Wedin & S. Ekman Syn.: *Degelia plumbea*

**PELTIGERA** Willd.

**aphthosa** (L.) Willd.

**aquatica** Miądl. & Lendemer (Miądlukowska et al. 2014b)

**britannica** (Gyelnik) Holt.-Hartw. & Tønsberg

**canina** (L.) Willd.

**castanea** Goward, Goffinet & Miądl. (Goffinet et al. 2003)

**chionophila** Goward & Goffinet (Goward & Goffinet 2000)

**cinnamomea** Goward

**collina** (Ach.) Schrader

**degenii** Gyelnik

**didactyla** (With.) J. R. Laundon

**elisabethae** Gyelnik

**evansiana** Gyelnik

**extenuata** (Nyl. ex Vainio) Lojka (Goffinet et al. 2003)

**fibrilloides** (Gyelnik) Vitik. (Vitikainen 2004)

**friippii** Holt.-Hartw. (Vitikainen 1994)

**gowardii** Lendemer & H. O'Brien (Lendemer & O'Brien 2011)

**horizontalis** (Hudson) Baumg.

**hydrothyria** Miądl. & Lutzoni Syn.: *Hydrothyria venosa* (Miądlukowska & Lutzoni 2000)

**hymenina** (Ach.) Delise

**islandica** Goward & Manoharan-Basil (Manoharan-Basil et al 2016)

**kristinssonii** Vitik.

**latiloba** Holt.-Hartw. (Holtan-Hartwig 2005)

**lepidophora** (Nyl. ex Vainio) Bitter

**leucophlebia** (Nyl.) Gyelnik

**lyngei** Gyelnik (Dillman et al. 2012)

**malacea** (Ach.) Funck

**membranacea** (Ach.) Nyl.

**monticola** Vitik. (Vitikainen 2004)

**neckeri** Hepp ex Müll. Arg.

**neopolydactyla** (Gyelnik) Gyelnik

**pacifica** Vitik.

**phyllidiosa** Goffinet & Miądl. (Goffinet & Miądlukowska 1999)



**polydactylon** (Necker) Hoffm.  
**polydactylon** subsp. **udeghe** Magain, Miadl. & Sérus. (Magain et al. 2016)  
**ponojensis** Gyelnik  
**praetextata** (Flörke ex Sommerf.) Zopf  
**retifoveata** Vitik.  
**rufescens** (Weiss) Humb.  
**scabrosa** Th. Fr.  
**scabrosella** Holt.-Hartw.  
**seneca** Magain, Miadl. & Sérus. (Magain et al. 2016)  
**tartarea** (Llano) Vitik. (Vitikainen 2006)  
**venosa** (L.) Hoffm.  
 aphthosa f. complicata (Th. Fr.) Zahlbr. = *P. leucophlebia*  
 aphthosa var. variolosa A. Massal. = *P. leucophlebia*  
 avenosa Gyelnik  
 canina var. rufescens (Weiss) Mudd = *P. rufescens*  
 canina var. rufescens f. innovans (Körber) J. W. Thomson = *P. praetextata*  
 canina var. spuria (Ach.) Schaerer = *P. didactyla*  
 didactyla var. extenuata (Nyl. ex Vainio) Goffinet & Hastings (Goffinet & Hastings 1995) = *P. extenuata*  
 dolichorrhiza (Nyl.) Nyl. = *P. polydactylon*  
 erumpens (Taylor) Elenkin = *P. didactyla*  
 hazslinszkyi Gyelnik = *P. extenuata*  
 horizontalis (Hudson) Baumg. f. zopfii (Gyelnik) J. W. Thomson This name has often been used for *P. elisabethae*  
 lactucifolia (With.) J. R. Laundon = *P. hymenina*  
 occidentalis sensu Kristinsson = *P. kristinssonii*  
 occidentalis (E. Dahl) Kristinsson = *P. neopolydactyla*  
 polydactyla var. hymenina (Ach.) Flotow = *P. hymenina*  
 polydactyla var. neopolydactyla Gyelnik = *P. neopolydactyla*  
 praecanina Gyelnik (Gyelnik 1931) no type designated, identity uncertain  
 pulverulenta (Taylor) Kremp. = *P. scabrosa* Th. Fr. for North American records  
 scutata (Dickson) Duby = *P. collina*  
 sorediata (Schaerer) Fink (Fink 1935) = *P. didactyla* (Vitikainen 1994)  
 spuria (Ach.) DC. = *P. didactyla*  
 variolosa (A. Massal.) Gyelnik = *P. leucophlebia*  
 zopfii Gyelnik (Fink 1935) = *P. horizontalis* (Vitikainen 1994)

#### **PELTULA** Nyl.

**bolanderi** (Tuck.) Wetmore Syn.: *Heppia bolanderi*  
**clavata** (Kremp.) Wetmore  
**corticola** Büdel & R. Sant. (Büdel et al. 2007)  
**cylindrica** Wetmore  
**euploca** (Ach.) Poelt ex Ozenda & Clauzade Syns.: *Heppia euploca*, *H. guepinii*, *H. polyphylla*  
**farinosa** Büdel (Büdel & Nash 2002)  
**michoacanensis** (B. de Lesd.) Wetmore  
**obscurans** (Nyl.) Gyelnik var. **obscurans**  
**obscurans** var. **deserticola** (Zahlbr.) Wetmore Syn.: *Heppia deserticola*  
**obscurans** var. **hassei** (Zahlbr.) Wetmore Syn.: *Heppia hassei*  
**omphaliza** (Nyl.) Wetmore  
**patellata** (Bagl.) Swinscow & Krog Syn.: *Heppia leptopholis*, *H. polyspora*, *H. terrena*  
**placodizans** (Zahlbr.) Wetmore Syn.: *Heppia placodizans*  
**psammophila** (Nyl.) Egea (Büdel & Nash 2002)  
**radicata** (Ach.) Nyl.  
**richardsii** (Herre) Wetmore Syn.: *Heppia richardsii*  
**sonorensis** Büdel & T. H. Nash  
**tortuosa** (Nees) Wetmore Syn.: *Heppia tortuosa*

**zahlbruckneri** (Hasse) Wetmore Syn.: *Heppia zahlbruckneri*  
*polyspora* (Tuck.) Wetmore = *P. patellata*

**PERFORARIA** Müll. Arg. = **COCCOTREMA**  
*minuta* Degel. = *Coccotrema pocillarium*

**PERIDIOTHELIA** D. Hawksw.  
+**fuliguncta** (Norman) D. Hawksw. (Aptroot 2002d)  
+**grandiuscula** (Anzi) D. Hawksw.

**PERIGRAPHA** Hafellner  
\***superveniens** (Nyl.) Hafellner (Diederich 2003)

**PERTUSARIA** DC.  
**alaskensis** Erichsen  
**alpina** Hepp ex Ahles  
**appalachensis** Lendemer, R. C. Harris & Elix (Lendemer et al. 2008a)  
**atra** Lynge  
**azulensis** B. de Lesd. (Lumbsch & Nash 1999)  
**borealis** Erichsen  
**brattiae** Lumbsch & T. H. Nash (Lumbsch & Nash 1999)  
**bryontha** (Ach.) Nyl.  
**californica** Dibben  
**carneopallida** (Nyl.) Anzi  
**chiodectonoides** Bagl. ex A. Massal.  
**coccodes** (Ach.) Nyl. (Tønsberg 1999a)  
**consocians** Dibben  
**copiosa** Erichsen  
**coriacea** (Th. Fr.) Th. Fr.  
**epixantha** R. C. Harris  
**expolita** R. C. Harris  
**flavicunda** Tuck.  
**flavocorallina** Coppins & Muhr  
**geminipara** (Th. Fr.) C. Knight ex Brodo Syn.: *Ochrolechia geminipara*  
**glaucomela** (Tuck.) Nyl. Syn.: *Lecanora glaucomela*  
**globularis** (Ach.) Tuck.  
**glomerata** (Ach.) Schaerer  
**hakkodensis** Yasuda ex Räsänen  
**hymenea** (Ach.) Schaerer  
**iners** R. C. Harris  
**islandica** Bratt, Lumbsch & Schmitt (Schmitt et al. 2006)  
**lecanina** Tuck.  
**leioplaca** DC.  
**macounii** (I. M. Lamb) Dibben Syn.: *Melanaria macounii*  
**mariae** B. de Lesd. (Lumbsch & Nash 1999)  
**mccroryae** Björk, Goward & T. Sprib. (Spribille et al. 2010)  
**moreliensis** B. de Lesd. (Nash et al. 1998)  
**neolecania** Lumbsch & T. H. Nash (Lendemer et al. 2013)  
**neoscotica** I. M. Lamb  
**obruta** R. C. Harris  
**occidentalis** Bratt, Lumbsch & Schmitt (Schmitt et al. 2006)  
**octomela** (Norman) Erichsen  
**oculata** (Dickson) Th. Fr.  
**ostiolata** Dibben  
**papillata** (Ach.) Tuck.  
**paratuberculifera** Dibben

**plittiana** Erichsen  
**propinqua** Müll. Arg.  
**pruinifera** Erichsen  
**pseudocorallina** (Lilj.) Arnold  
**pupillaris** (Nyl.) Th. Fr.  
**pustulata** (Ach.) Duby  
**rhexostoma** Nyl.  
**rigida** Müll. Arg. (Seavey et al. 2017)  
**rubefacta** Erichsen  
**saximontana** Wetmore  
**sinusmexicani** Dibben  
**sommerfeltii** (Flörke ex Sommerf.) Fr.  
**stenhammarii** Hellbom  
**subambigens** Dibben  
**subobducens** Nyl.  
**suboculata** Brodo & Dibben  
**subpertusa** Brodo  
**subrigida** Müll. Arg. (Seavey et al. 2017)  
**sulcata** Dibben  
**tejocotensis** B. de Lesd. (Lumbsch et al. 1999)  
**tetrathalamia** (Fée) Nyl.  
**texana** Müll. Arg.  
**trochiscea** Norman  
**valliculata** Dibben  
**virensica** R. C. Harris  
**wulfenioides** B. de Lesd.  
**xanthodes** Müll. Arg.  
**zeorina** Erichsen  
**albescens** (Hudson) M. Choisy & Werner = *Lepra albescens*  
**aleutensis** Erichsen = *P. alaskensis*  
**amara** (Ach.) Nyl. = *Lepra amara*  
**amara** var. **flotowiana** (Flörke) Vainio = *Lepra amara*, at least for Europe  
**ambigens** (Nyl.) Tuck. = *P. subambigens*, for North American records  
**andersonii** Lendemer (Lendemer 2009c) = *Lepra andersoniae*  
**arizonica** Dibben = *P. tejocotensis*  
**bryophaga** Erichsen = *Ochrolechia bryophaga*  
**canadensis** Stirton = *P. pustulata*  
**ceuthocarpa** (Sm.) Turner & Borrer = *P. excludens*  
**ceuthocarpoides** Zahlbr. = *P. excludens*  
**communis** DC. (Mohr 1901) = *P. pertusa*, a misidentification for North America  
**commutata** Müll. Arg. (Lücking et al. 2011b) = *Lepra commutata*  
**concentrica** Erichsen Type not found. May be *Lepra multipunctoides*  
**coriacea** var. **obducens** (Nyl.) Vainio = *P. coriacea*  
**dactylina** (Ach.) Nyl. = *Lepra dactylina*  
**diffusilis** Erichsen = *P. glomerata*  
**diluta** Björk, G. Thor & T. B. Wheeler (Spribille et al. 2009) = *Gyalectaria diluta*  
**discoidea** (Pers.) Malme = *P. albescens*  
**disticha** Erichsen = *P. texana* (Dibben 1980)  
**excludens** Nyl. = *Lepra excludens*  
**finkii** Zahlbr. ex Fink = *P. rhexostoma*  
**flavida** (DC.) J. R. Laundon = a European taxon, not in North America  
**floridana** Dibben = *Lepra floridana*  
**freyi** Erichsen = *Megaspora verrucosa*  
**globulifera** (Turner) A. Massal. (Fink 1935) = *Lepra albescens*  
**granulata** (Ach.) Müll. Arg. = *P. wulfenioides* for North American records  
**hemisphaerica** (Flörke) Erichsen = a European taxon, not in North America



hultenii Erichsen = Ochrolechia subplicans subsp. hultenii  
 hypothamnolica Dibben = *Lepra hypothamnolica*  
 laevigata (Nyl.) Arnold non (Th. Fr.) Anzi = Variolaria trachythallina  
 lecanina subsp. nigra Fink ex Hedrick = *Lepra ophthalmiza*  
 leioterella Erichsen = P. macounii for North American reports  
 leucostoma (Ach.) A. Massal. = P. leioplaca  
 lutescens (Hoffm.) Lamy = P. flavida, but not in North America  
 marginata Nyl. = P. propinqua  
 microsticta (Sm. & Sow.) Erichsen = P. excludens  
 monogona Nyl. = P. excludens for North American records  
 multipuncta (Turner) Nyl. = misidentification for North America  
 multipunctoides Dibben = *Lepra multipunctoides*  
 nolens Nyl. = P. chiodectonoides  
 ocellata (Wallr.) Körber = misidentification for North America  
 ophthalmiza (Nyl.) Nyl. = *Lepra ophthalmiza*  
 panyrga (Ach.) A. Massal. = *Lepra panyrga*  
 pertusa (Weigel) Tuck. = misidentification for North America  
 pocillum Cumm. (Eyerdam 1960) = apparent nomen nudum of uncertain identity  
 protuberans (Sommerf. ex Th. Fr.) Th. Fr. = P. carneopallida  
 pulchella Malme = Varicellaria velata (Archer & Messuti 1997)  
 raesaenenii Erichsen = misidentification for North America  
 rhodoleuca Th. Fr. = Ochrolechia rhodoleuca  
 rubescens Erichsen = P. propinqua  
 santamonicae Dibben = Varicellaria velata (Archer & Messuti 1997)  
 scutellaris (Schaerer) Hue (Fink 1935) = *Lepra albescens*  
 shenandoensis Hale & Dibben = P. plittiana (Lendemer & Harris 2012)  
 subamplicata Nyl. Erroneous name created by typographic error, first appearing in Egan (1987)  
 subdactylina Nyl. = *Lepra subdactylina*  
 subplicans Nyl. = Ochrolechia subplicans  
 subpupillaris Vězda = P. glaucomela  
 tabuliformis Erichsen = P. leioplaca  
 taeniata Erichsen = P. zeorina  
 torquata Müll. Arg. = P. propinqua  
 trachydactyla Vainio = identity uncertain, possibly an Ochrolechia sp.  
 trachythallina Erichsen = *Lepra trachythallina*  
 tuberculifera Nyl. = misidentification for North America; most specimens are P. paratuberculifera  
 tuckermanii Erichsen = P. subobducens  
 ventosa Malme = *Lepra ventosa*  
 velata (Turner) Nyl. = Varicellaria velata (Schmitt et al. 2012)  
 waghornei Hulting = *Lepra waghornei*  
 wulfenii DC. = P. hymenea  
 xanthostoma (Sommerf.) Fr. = Ochrolechia xanthostoma

#### **PETRACTIS** Fr.

clausa (Hoffm.) Kremp. (Dillman et al. 2012)  
 farlowii (Tuck. ex Nyl.) Vězda Syn.: Gyalecta farlowii

#### **PEZIZELLA** Fuckel

\***epithallina** (W. Phillips & Plowr.) Sacc. (Diederich 2003)

#### **PHACOGRAPHA** Hafellner (Hafellner 2009)

\***glaucomaria** (Nyl.) Hafellner Syns.: Leciographa glaucomaria, Opegrapha glaucomaria

#### **PHACOPSIS** Tul.

\***cephalodioides** (Nyl.) Triebel & Rambold (Diederich 2003)  
 \***doerfeltii** Alstrup & Scholz (Scholz 1998)

- \***fusca** (Triebe & Rambold) Diederich (Diederich 2003)
- \***oxyspora** (Tul.) Triebe & Rambold Syn.: Abrothallus oxysporus, Lecidea oxyspora, Nesolechia oxyspora
- \***thallicola** (A. Massal.) Triebe & Rambold Syn.: Nesolechia thallicola
- \***vulpina** Tul.
- \*huuskonenii Räsänen = Raesaenenia huuskonenii (Divakar et al. 2015)
- \*oxyspora var. defecta Triebe & Rambold = P. oxyspora
- \*oxyspora var. fusca Triebe & Rambold = P. fusca

#### PHACOTHECIUM Trevisan

- \***varium** (Tul.) Trevisan Syn.: Opegrapha physciaria (Hafellner 2009)

#### PHAEOCALICIUM A.F.W. Schmidt

- +**betulinum** (Nyl.) Tibell (Selva & Tibell 1999)
- +**boreale** (Nyl.) Tibell (McCune et al. 2014b)
- +**compressulum** (Nyl. ex Vainio) A.F.W. Schmidt Syn.: Mycocalicium compressulum
- +**curtisii** (Tuck.) Tibell Syn.: Calicium curtisii
- +**flabelliforme** Tibell (Selva & Tibell 1999)
- +**interruptum** (Nyl.) Tibell (Hardman et al. 2016)
- +**matthewsianum** Selva & Tibell (Selva & Tibell 1999)
- +**minutissimum** (G. Merr.) Selva Syn.: Calicium minutissimum, Stenocybe minutissima (Selva & Tibell 1999)
- +**polyporaenum** (Nyl.) Tibell
- +**populneum** (Brond. ex Duby) A.F.W. Schmidt Syn.: Calicium populneum
- +**praecedens** (Nyl.) A.F.W. Schmidt
- +**tremulicola** (Norrlin ex Nyl.) Tibell Syn. Stenocybe tremulicola (Tibell 1996; Selva & Tibell 1999)

#### PHAEOGRAPHINA Müll. Arg.

- asteroides Fink = Phaeographis asteroides
- caesiopruinosa (Fée) Müll. Arg. = Platygramme caesiopruinosa
- columbina (Tuck.) Zahlbr. = Fissurina columbina
- explicans Fink = Leiorreuma explicans
- plurifera (Nyl.) Fink = Platygramme caesiopruinosa
- quassicola (Fée) Müll. Arg. = Thecaria quassicola
- scalpturata (Ach.) Müll. Arg. = Phaeographis scalpturata

#### PHAEOGRAPHIS Müll. Arg.

- arthonioides** (Vainio) Zahlbr.
- asteroides** (Fink) Lendemer Syn.: Phaeographina asteroides (Lendemer & Knudsen 2008b)
- atromaculata** (A. W. Archer) A. W. Archer (Lendemer & Knudsen 2008b)
- brasiliensis** (A. Massal.) Kalb & Matthes-Leicht (Archer 2006)
- delicatula** Common & Lücking (Lücking et al. 2011b)
- dendritica** (Ach.) Müll. Arg. Syn.: Graphis dendritica
- dendriticella** Müll. Arg.
- dividens** (Nyl.) Kr. P. Singh & Swarnalatha (Seavey et al. 2017)
- erumpens** (Nyl.) Müll. Arg.
- flavescens** Dal Forno & Eliasaro (Lücking et al. 2011b)
- haematites** (Fée) Müll. Arg.
- inconspicua** (Fée) Müll. Arg. (Lücking et al. 2011b)
- intricans** (Nyl.) Staiger Syn.: Sarcographa intricans (Staiger 2002)
- inusta** (Ach.) Müll. Arg.
- leiogrammodes** (Kremp.) Müll. Arg. (Lücking et al. 2011b)
- lobata** (Eschw.) Müll. Arg.
- major** (Kremp.) Lücking (Lücking et al. 2011b)
- multicolor** R. C. Harris
- nylanderii** (Vainio) Zahlbr. (Lücking et al. 2011b)

**oricola** Lendemer & R. C. Harris (Lendemer & Harris 2014a)  
**pseudostromatica** F. Seavey & J. Seavey (Seavey et al. 2017)  
**punctiformis** (Eschw.) Müll. Arg.  
**quadrifera** (Nyl.) Staiger (Seavey et al. 2017)  
**radiata** F. Seavey & J. Seavey (Seavey et al. 2017)  
**scalpturata** (Ach.) Staiger (Lücking et al. 2011b)  
**schizoloma** (Müll. Arg.) Müll. Arg. (Lücking et al. 2011b)  
**smithii** (Leighton) B. de Lesd. (Tønsberg 1999a)  
**subfulgurata** (Nyl.) Zahlbr.  
**tortuosa** (Ach.) Müll. Arg.  
 exaltata (Mont. & Bosch) Müll. Arg. = *Leiorreuma exaltatum*  
 eulectra (Tuck.) Zahlbr. = *Graphis eulectra*  
 lyellii (Sm.) Zahlbr. = misidentification for North America  
 patellula (Fée) Müll. Arg. (Fink 1935) = *Leiorreuma patellulum*  
 sericea (Eschw.) Müll. Arg. = *Leiorreuma sericea*  
 sexloculata Fink = *P. arthonioides*  
 subtigrina (Vainio) Zahlbr. = *P. brasiliensis*

#### PHAEOPHYSCIA Moberg

**adiastola** (Essl.) Essl. Syn.: *Physcia adiaastola*  
**ciliata** (Hoffm.) Moberg Syns.: *Physcia ciliata*, *P. obscura* auct.  
**constipata** (Norrlin & Nyl.) Moberg Syn.: *Physcia constipata*  
**decolor** (Kashiw.) Essl.  
**endococcina** (Körber) Moberg Syns.: *Physcia endococcina*, *P. lithotodes*, (?) *P. columbiana*  
**endococcinodes** (Poelt) Essl. Syn.: *Physcia endococcinodes*  
**erythrocardia** (Tuck.) Essl.  
**hirsuta** (Mereschk.) Essl. Syn.: *Physcia hirsuta*  
**hirtella** Essl.  
**hispidula** (Ach.) Essl. Syns.: *Physcia hispidula*, *P. setosa*  
**insignis** (Mereschk.) Moberg  
**kairamoi** (Vainio) Moberg Syn.: *Physcia kairamoi*  
**leana** (Tuck.) Essl. Syn.: *Physcia leana*  
**nigricans** (Flörke) Moberg Syn.: *Physcia nigricans*  
**orbicularis** (Necker) Moberg Syn.: *Physcia orbicularis*, *P. virella*  
**pusilloides** (Zahlbr.) Essl. Syn.: *Physcia pusilloides*  
**rubropulchra** (Degel.) Essl. Syns.: *Physcia orbicularis* f. *rubropulchra*, *P. endochrysea*, *P. rubropulchra*  
**sciastra** (Ach.) Moberg Syns.: *Physcia sciastra*, *P. lithotea*  
**squarrosa** Kashiw. (Moberg 1995) Syn: *Physcia lacinulata*, for North American records  
 cernohorskyi (Nádv.) Essl. = *P. hirsuta* (Esslinger 2004b)  
 chloantha (Ach.) Moberg = *Physciella chloantha*  
 imbricata sensu Esslinger (1978) = *P. squarrosa*  
 imbricata (Vainio) Essl. = *P. hispidula*  
 melanchra (Hue) Hale = *Physciella melanchra*  
 nepalensis (Poelt) D. D. Awasthi = *Physciella nepalensis*

#### PHAEOPYXIS Rambold & Triebel (Rambold & Triebel 1990)

\***punctum** (A. Massal.) Rambold, Triebel & Coppins (Rambold & Triebel 1990)

#### PHAEORRHIZA H. Mayrhofer & Poelt

**nimbosa** (Fr.) H. Mayrhofer & Poelt Syns.: *Rinodina nimbosa*, *R. phaeocarpa*  
**sareptana** (Tomin) H. Mayrhofer & Poelt

#### PHAEOSPORA Hepp ex Stein

\***arctica** Horáková & Alstrup  
 \***catolechiaie** Zopf (Zhurbenko 2014)



\***parasitica** (Lönnr.) Arnold

\***rimosicola** (Leighton ex Mudd) Hepp ex Stein Syn.: *Pyrenulella endococcoidea*

**PHAEOSPOROBOLUS** D. Hawksw. & Hafellner

\***alpinus** R. Sant., Alstrup & D. Hawksw. = *Lichenostigma alpinum* (Ertz et al. 2014)

\***fellhanerae** R. C. Harris & Lendemer (Harris & Lendemer 2009) = *Lichenostigma fellhanerae* (Ertz et al. 2014)

\***usneae** D. Hawksw. & Hafellner = *Lichenostigma maureri* (Ertz et al. 2014)

**PHAEOTREMA** Müll. Arg.

**californicum** (Tuck.) Zahlbr. = *Thelotrema californicum*

**meiospermum** (Nyl.) Müll. Arg. = *Melanotrema meiospermum*

**PHARCIDIA** Körber = **STIGMIDIUM**

\***dispersa** (J. Lahm ex Körber) Winter ex Rabenh. = *Zwackhiomyces dispersus*

\***ephebes** Henssen = *Stigmidium ephebes*

\***epicymatia** (Wallr.) Winter = a *Stigmidium* spp.

\***parva** Henssen (see *Stigmidium*)

**PHLOEOPECCANIA** J. Steiner (Schultz & Büdel 2005)

**major** Henssen ined. (Schultz & Büdel 2005)

**pulvinulina** J. Steiner (Schultz & Büdel 2005)

**PHLYCTELLA** Kremp.

**andensis** Nyl.

**PHLYCTIDIA** Müll. Arg.

**ludoviciensis** Müll. Arg. = *Phlyctis boliviensis*

**PHLYCTIS** Wallr.

**agelaea** (Ach.) Flotow

**argena** (Ach.) Flotow

**boliviensis** Nyl. Syn.: *Phlyctidia ludoviciensis* (Lendemer & R. C. Harris 2014d)

**petraea** R. C. Harris, Muscavitch, Ladd & Lendemer (Muscavitch et al. 2017a)

**speirea** G. Merr.

**ludoviciensis** (Müll. Arg.) Lendemer (Lendemer 2005a) = *P. boliviensis*

**willeyi** Tuck. = *Leucodecton willeyi*

**PHOEBUS** R. C. Harris & Ladd (Harris & Ladd 2005, 2007)

**hydrophobius** R. C. Harris & Ladd (Harris & Ladd 2005, 2007)

**PHOMA** Fr.

\***caloplacae** D. Hawksw. (Lawrey et al. 2012)

\***fuliginosa** M. S. Cole & D. Hawksw. (Hawksworth & Cole 2004)

\***grumantiana** Zhurb. & Diederich (Diederich et al. 2007)

\***lobariae** Diederich & Etayo (Hafellner et al. 2002)

\***lobariicola** Alstrup (Spribille et al. 2010)

\***peltigerae** (P. Karsten) D. Hawksw. (Zhurbenko & Laursen 2003)

\***puncteliae** Diederich & Lawrey (Lawrey et al. 2012)

\***cladoniicola** Diederich, Kocourk. & Etayo (Diederich et al. 2007) = *Didymocyrtis cladoniicola* (Ertz et al. 2015a)

\***cytophora** (Vouaux) D. Hawks. (Cole & D. Hawksworth 2001) = *Briancoppinsia cytophora* (Diederich et al. 2012; Kocourkova et al. 2012)

\***physciicola** Keissler (Alstrup & Cole 1998) = *Didymocyrtis epiphyscia* (Ertz et al. 2015a)

\***xanthomendozae** Diederich & Freebury (Lawrey et al. 2012) = *Didymocyrtis xanthomendozae* (Ertz et al. 2015a)

**PHRAGMONAEVIA** Rehm

\*fuckelii Rehm = Corticifraga fuckelii

**PHYLLISCUM** Nyl.

**demangeonii** (Moug. & Mont.) Nyl. Syn.: Thyrea demangeonii  
**tenue** Henssen

**PHYLLOBLASTIA** Vainio

**fortuita** Llop & Gómez-Bolea (Carlberg 2016)

**PHYLLOPSORA** Müll. Arg.

**breviuscula** (Nyl.) Müll. Arg. (Timdal 2011)  
**buettneri** (Müll. Arg.) Zahlbr. (Timdal 2011)  
**confusa** Swinscow & Krog  
**corallina** (Eschw.) Müll. Arg. var. **corallina**  
**furfuracea** (Pers.) Zahlbr. Syn.: Lecidea furfuracea  
**glabella** (Nyl.) Gotth. Schneider  
**glaucella** (Vainio) Timdal (Timdal 2008)  
**glaucescens** (Nyl.) Gotth. Schneider (Seavey et al. 2017)  
**halei** (Tuck.) Zahlbr. Syn.: Pannaria halei  
**isidiotyla** (Vainio) Riddle (Brako 1991)  
**kalbii** Brako (Brako 1991)  
**labriformis** Timdal (Seavey & Seavey 2014a)  
**lacerata** Timdal (Lücking et al. 2011b)  
**ochroxantha** (Nyl.) Zahlbr. (Timdal 2008)  
**parvifolia** (Pers.) Müll. Arg. var. **parvifolia** Syn.: Biatora parvifolia, Lecidea parvifolia  
**parvifoliella** (Nyl.) Müll. Arg.  
**porphyromelaena** (Vainio) Zahlbr. (Timdal 2011)  
**rappiana** (Brako) Elix (Timdal 2011)  
**santensis** (Tuck.) Swinscow & Krog (Timdal 2008) Syns.: Bacidia microphyllina auct., Lecidea santensis  
buettneri (Müll. Arg.) Zahlbr. var. glauca (B. de Lesd.) Brako (Harris 1995a) = P. porphyromelaena  
buettneri var. munda (Malme) Brako (Brako 1991) = P. buettneri  
canoumbrina (Vainio) Brako Not known from North America; see note under Bacidia subgranulosa  
corallina var. glaucella (Vainio) Brako (Brako 1991) = P. glaucella  
corallina var. ochroxantha (Nyl.) Brako (Brako 1991) = P. ochroxantha  
corallina var. rappiana Brako (Brako 1991) = P. rappiana  
corallina var. santensis (Tuck.) Brako = P. santensis  
parvifolia var. breviscula (Nyl.) Brako (Brako 1991) = P. breviscula  
subcorallina Zahlbr. = Catinaria subcorallina  
subfilamentosa Zahlbr. = Lecidea subfilamentosa

**PHYSALOSPORA** Niessl

\*xanthoriae (Wedd.) Sacc. = misidentification for North America

**PHYSCIA** (Schreber) Michaux

**adscendens** (Fr.) H. Olivier  
**aipolia** (Ehrh. ex Humb.) Fűrnr. var. **aipolia**  
**albinea** (Ach.) Nyl.  
**alnophila** (Vainio) Loht., Moberg, Myllys & Tehler (Lohtander et al. 2009)  
**americana** G. Merr.  
**atrostriata** Moberg  
**biziana** (A. Massal.) Zahlbr.  
**caesia** (Hoffm.) Hampe ex Fűrnr.  
**clementei** (Sm.) Lynge

**convexa** Müll. Arg.  
**crispa** Nyl. Many old records using this name are actually *P. atrostriata*  
**dakotensis** Essl. (Esslinger 2004a)  
**dimidiata** (Arnold) Nyl.  
**dubia** (Hoffm.) Lettau  
**duplicorticata** W. A. Weber & J. W. Thomson  
**erumpens** Moberg (Moberg 1997)  
**halei** J. W. Thomson  
**leptalea** (Ach.) DC.  
**magnussonii** Frey  
**mexicana** B. de Lesd.  
**millegrana** Degel.  
**montana** B. de Lesd.  
**nashii** Moberg (Moberg 1997)  
**neglecta** Moberg (Tucker 2014)  
**neogaea** R. C. Harris  
**phaea** (Tuck.) J. W. Thomson Syn.: *Parmelia phaea*  
**poncinsii** Hue (Harris 1995a)  
**pseudospeciosa** J. W. Thomson  
**pumilior** R. C. Harris  
**solistella** Essl. & Egan (Esslinger & Egan 1996)  
**sorediosa** (Vainio) Lynge  
**stellaris** (L.) Nyl.  
**subalbinea** Nyl. (Lohtander et al. 2009)  
**subtilis** Degel.  
**tenella** (Scop.) DC.  
**tenella** subsp. **marina** (A. Nyl.) D. Hawksw.  
**tenellula** Moberg (Moberg 1997)  
**thomsoniana** Essl. (Esslinger 2017)  
**tribacia** (Ach.) Nyl.  
**undulata** Moberg (Harris 1995a)  
**villosula** Moberg (Tucker 2014)  
*adglutinata* (Flörke) Nyl. = *Hyperphyscia adglutinata*  
*adiastola* Essl. = *Phaeophyscia adiaastola*  
*aegialita* (Afzel. ex Ach.) B. J. Moore = *Dirinaria aegialita*  
*aipolia* var. *alnophila* (Vainio) Lynge = *P. alnophila*  
*alba* (Fée) Müll. Arg. = misidentification for North America  
*alba* var. *obsessa* (Mont.) J. W. Thomson = *P. integrata* Nyl., but a misidentification for North America  
*albicans* sensu J. W. Thomson = *P. atrostriata* for North American reports  
*albicans* (Pers.) J. W. Thomson = *Heterodermia albicans*  
*aquila* (Ach.) Nyl. var. *detonsa* (Fr.) Tuck. (Claassen 1912) = *Anaptychia palmulata*  
*aspera* H. Magn. = *Dirinaria aegialita*  
*astroidea* (Clem.) Nyl. = *P. clementei*  
*cainii* Räsänen = *P. aipolia*  
*callosa* sensu Thomson (1963) = *P. tribacia* (Moberg 1997)  
*callosa* Nyl. = *P. phaea*  
*cascadensis* H. Magn. = *P. phaea* (Moberg 1997)  
*cernohorskyi* Nádv. = *Phaeophyscia cernohorskyi*  
*chloantha* (Ach.) Vainio = *Physciella chloantha*  
*ciliata* (Hoffm.) Du Rietz = *Phaeophyscia ciliata*  
*columbiana* B. de Lesd. = (?) *Phaeophyscia endococcina*, but the type not seen  
*comosa* (Eschw.) Nyl. = *Heterodermia comosa*  
*constipata* Norrlin & Nyl. = *Phaeophyscia constipata*  
*convexella* Moberg (Moberg 1997, in map) Erroneous report for the United States (Moberg 2002)  
*culbersonii* Thoms. (nomen nudum) = *Phaeophyscia squarrosa*  
*detersa* (Nyl.) Nyl. = *Physconia detersa*



elaeina (Sm.) A. L. Sm. = *Hyperphyscia adglutinata*  
 endochrysea (Hampe) Nyl. = *Phaeophyscia rubropulchra*  
 endococcina (Körber) Th. Fr. = *Phaeophyscia endococcina*  
 endococcinodes Poelt = *Phaeophyscia endococcinodes*  
 fragilescens Zahlbr. = *P. solediosa*  
 frostii (Tuck.) Zahlbr. = *Dirinaria frostii*  
 grisea (Lam.) Zahlbr. = *Physconia grisea*, but a misidentification for North America  
 hirsuta Mereschk. = *Phaeophyscia hirsuta*  
 hispida auct. = *P. tenella*  
 hispidula (Ach.) Frey = *Phaeophyscia hispidula*  
 hypoleuca (Ach.) Tuck. = *Heterodermia hypoleuca*  
 intermedia Vainio = *P. dubia*  
 imbricata Vainio = *Phaeophyscia hispidula*  
 isidiigera (Zahlbr.) Fink = *Physconia isidiigera*  
 kairamoi Vainio = *Phaeophyscia kairamoi*  
 lacinulata Müll. Arg. = *Phaeophyscia squarrosa*, for North American records  
 leana (Tuck.) Tuck. = *Phaeophyscia leana*  
 leucoleiptes (Tuck.) Lettau = *Physconia leucoleiptes*  
 lithotea "(Ach.) Nyl." = *Phaeophyscia sciastra*  
 lithotodes Nyl. = *Phaeophyscia endococcina*  
 luganensis Mereschk. = *Physciella chloantha*  
 melanchra Hue = *Physciella melanchra*  
 melops Dufour = *P. phaea*  
 minor (Fée) Vainio = *Hyperphyscia minor*  
 muscigena (Ach.) Nyl. = *Physconia muscigena*  
 nepalensis Poelt = *Physciella nepalensis*  
 nigricans (Flörke) Stizenb. = *Phaeophyscia nigricans*  
 obscura auct. = *Phaeophyscia ciliata*  
 obscura var. endochrysea (Hampe) Nyl. (Claassen 1912) North American reports are *Phaeophyscia rubropulchra*  
 obsessa (Mont.) Nyl. = *P. integrata*, but a misidentification for North America  
 orbicularis (Necker) Poetsch = *Phaeophyscia orbicularis*  
 orbicularis f. rubropulchra Degel. = *Phaeophyscia rubropulchra*  
 picta (Sw.) Nyl. = *Dirinaria picta*  
 pulverulenta auct. non (Schreber) Fűrnr. = *Physconia distorta*, but a misidentification for North America  
 pusilloides Zahlbr. = *Phaeophyscia pusilloides*  
 purpurascens Vainio = *Dirinaria purpurascens*  
 rubropulchra (Degel.) Moberg = *Phaeophyscia rubropulchra*  
 sciastra (Ach.) Du Rietz = *Phaeophyscia sciastra*  
 semipinnata (J. F. Gmelin) Moberg = *P. leptalea*  
 setosa (Ach.) Nyl. = *Phaeophyscia hispidula*  
 speciosa (Wulfen) Nyl. = *Heterodermia speciosa*  
 subobscura Nyl. = *P. tenella* subsp. *marina*  
 syncolla Tuck. ex Nyl. = *Hyperphyscia syncolla*  
 teretiuscula (Ach.) Lynge = *P. dubia*  
 tribacoides auct. non Nyl. = *P. americana*  
 venusta (Ach.) Nyl. = *Physconia venusta*, but a misidentification for North America  
 virella (Ach.) Flagey (Fink 1935) = *Phaeophyscia orbicularis*  
 wainioi Räsänen = *P. subalbinea*  
 wrightii Tuck. = North American report is *Heterodermia diademata* (Esslinger & Tucker 2009)

#### PHYSICIELLA Essl.

**chloantha** (Ach.) Essl. Syn.: *Physcia chloantha*, *P. luganensis*, *Phaeophyscia chloantha*  
**melanchra** (Hue) Essl. Syn.: *Physcia melanchra*, *Phaeophyscia melanchra*  
**nepalensis** (Poelt) Essl. Syn.: *Physcia nepalensis*, *Phaeophyscia nepalensis*

**PHYSCIOPSIS** M. Choisy = **HYPERPHYSCIA**

adglutinata (Flörke) M. Choisy = *Hyperphyscia adglutinata*

elaeina (Sm.) Poelt = *Hyperphyscia adglutinata*

minor (Fée) B. J. Moore = *Hyperphyscia minor*

syncolla (Tuck. ex Nyl.) Poelt = *Hyperphyscia syncolla*

**PHYSCONIA** Poelt

**americana** Essl. (Esslinger 1994)

**californica** Essl. (Esslinger 2000b)

**detersa** (Nyl.) Poelt Syn.: *Physcia detersa*

**elegantula** Essl.

**enteroxantha** (Nyl.) Poelt

**fallax** Essl. (Esslinger 2000b)

**grumosa** Kashiw. & Poelt (Esslinger & Dillman 2010)

**isidiigera** (Zahlbr.) Essl.

**isidiomuscigena** Essl. (Esslinger 2000b)

**labrata** Essl., McCune & Haughland (Esslinger et al. 2017)

**leucoleiptes** (Tuck.) Essl. Syn.: *Physcia leucoleiptes*

**muscigena** (Ach.) Poelt Syn.: *Physcia muscigena*

**perisidiosa** (Erichsen) Moberg

**subpallida** Essl.

*distorta* (With.) J. R. Laundon = misidentification for North America

*farrea* sensu Poelt = *P. perisidiosa* [*Parmelia farrea* Ach. = *Physconia grisea*]

*grisea* (Lam.) Poelt = misidentification for North America

*kurokawae* Kashiw. = *P. leucoleiptes* (Esslinger 2002d)

*pulverulacea* Moberg = *P. distorta*, but a misidentification for North America

*pulverulenta* auct. non (Schreber) Poelt = *P. distorta*, but a misidentification for North America

*thomsonii* Essl. = *Anaptychia elbursiana*

**PHYSMA** A. Massal.

**byrsaeum** (Ach.) Müll. Arg. ("byrsinum")

**cataractaecola** B. de Lesd.

*luridum* (Mont.) Tuck. = *Pannaria lurida*

**PHYTOCONIS** Bory

*ericetorum* (Pers. : Fr.) Redhead & Kuyper = *Lichenomphalia umbellifera*

*luteovitellina* (Pilát & Nannf.) Redhead & Kuyper = *Lichenomphalia alpina*

*velutina* (Quélet) Redhead & Kuyper = *Lichenomphalia velutina*

*viridis* (Ach.) Redhead & Kuyper = *Lichenomphalia hudsoniana*

**PICCOLIA** A. Massal. (Hafellner 1995)

**conspersa** (Fée) Vainio Syn.: *Biatorella conspersa*, *Heterothecium conspersum* (Hafellner 1995)

**nannaria** (Tuck.) Lendemer & Beeching Syns.: *Biatorella nannaria*, *Heterothecium nannarium* (Knudsen & Lendemer 2007)

**ochrophora** (Nyl.) Hafellner Syn.: *Biatorella ochrophora*, *Lecidea ochrophora*, *Strangospora ochrophora* (Hafellner 2004d)

**PILOPHORUS** Th. Fr.

**acicularis** (Ach.) Th. Fr.

**cereolus** (Ach.) Th. Fr. in Hellbom

**clavatus** Th. Fr. Syn.: *P. hallii*

**dovreensis** (Nyl.) Timdal, Hertel & Rambold Syn.: *Lecidea pallida*

**fibula** (Tuck.) Th. Fr.

**nigricaulis** M. Satô

**robustus** Th. Fr.

**vegae** Krog  
**hallii** (Tuck.) Vainio = *P. clavatus*  
**pallidus** (Th. Fr.) Timdal = *P. dovrensis*

**PLACIDIOPSIS** Beltr.

**cinerascens** (Nyl.) Breuss  
**minor** R. C. Harris  
**pseudocinerea** Breuss  
**cervinula** (Nyl.) Vainio = misidentification for North America

**PLACIDIUM** A. Massal. (Breuss 1996)

**acarosporoides** (Zahlbr.) Breuss (Breuss & Bratt 2000) Syns.: *Catapyrenium acarosporoides*, *Dermatocarpon acarosporoides*, *D. novomexicanum*, *Endopyrenium bajadanae*, *E. novomexicanum*, *Heteropladidium acarosporoides*  
**andicola** (Breuss) Breuss Syn.: *Catapyrenium andicolum*  
**arboreum** (Schwein. ex E. Michener) Lendemer Syns.: *Catapyrenium tuckermanii*, *Dermatocarpon tuckermanii*, *Dermatocarpon arboretum*, *Endocarpon arboretum*, *E. tuckermanii*, *Endopyrenium tuckermanii* (Lendemer & Yahr 2004)  
**californicum** Breuss (Breuss & Bratt 2000)  
**chilense** (Räsänen) Breuss Syn.: *Catapyrenium chilense*  
**figens** (Breuss) Breuss (Breuss 2002d)  
**imbecillum** (Breuss) Breuss (McCune & Rosentreter 2007)  
**lachneum** (Ach.) B. de Lesd. Syn.: *Catapyrenium lachneum*  
**micheelii** A. Massal. Syns.: *Catapyrenium micheelii*, *Dermatocarpon micheelii*  
**norvegicum** (Breuss) Breuss Syn.: *Catapyrenium norvegicum*  
**pilosellum** (Breuss) Breuss (Nash et al. 1998)  
**podolepis** (Breuss) M. Prieto (Prieto et al. 2012) Syns.: *Catapyrenium podolepis*, *Heteropladidium podolepis*  
**rufescens** (Ach.) A. Massal. Syns.: *Catapyrenium rufescens*, *Dermatocarpon rufescens*  
**squamulosum** (Ach.) Breuss Syns.: *Catapyrenium squamulosum*, *Dermatocarpon hepaticum* auct. non (Ach.) Th. Fr.  
**yoshimurae** (H. Harada) Breuss (McCune 2017)  
**lacinulatum** (Ach.) Breuss = *Clavascidium lacinulatum*  
**lacinulatum** var. **atrans** Breuss (Lendemer 2004c) = *Clavascidium lacinulatum* var. **atrans**  
**lacinulatum** var. **erythrostratum** Breuss (Breuss 2000) = *Clavascidium lacinulatum* var. **erythrostratum**  
**tuckermanii** (Ravenel ex Mont.) Breuss = *P. arboreum*  
**umbrinum** (Breuss) Prieto & Breuss (Gueidan et al. 2009) = *Clavascidium umbrinum*

**PLACOCARPUS** Trevisan

**#americanus** K. Knudsen, Breuss, & Kocourk. (Knudsen et al. 2009)  
**schaereri** (Fr.) Breuss = misidentification for North America (McCune et al. 2014b)

**PLACODIUM** F. H. Wigg.

**aurantiacum** (Lightf.) Hepp (Claassen 1912) = *Gyalolechia flavorubescens*  
**bolacina** Tuck. = *Polycauliona bolacina*  
**cerinum** (Hedw.) Nägeli ex Hepp (Claassen 1912) = *Caloplaca cerina*  
**cinnabarinum** (Ach.) Nyl. = *Caloplaca cinnabarina*  
**cladodes** Tuck. = *Pachypeltis cladodes*  
**coralloides** Tuck. = *Polycauliona coralloides*  
**elegans** (Link) DC = *Rusavskia elegans*  
**elegans** var. **trachyphyllum** Tuck. = *Xanthomendoza trachyphylla*  
**ferrugineum** (Hudson) Hepp = *Blastenia ferruginea*  
**ferrugineum** f. **bolanderi** Tuck. = *Polycauliona luteominia* var. **bolanderi**  
**fulgens** (Sw.) DC. = *Gyalolechia fulgens*  
**galactophylla** Tuck. = *Squamulea galactophylla*  
**microphyllum** Tuck. = *Caloplaca microphyllina*



peliohyllum Tuck. = Caloplaca peliohylla  
pyraceum (Ach.) Fink (Claassen 1917) = Athallia pyracea  
vitellinum (Hoffm.) Hepp (Claassen 1912) = Candelariella vitellina

#### **PLACOMARONEA** Räsänen

**mendozae** (Räsänen) M. Westberg (Westberg 2004a)

#### **PLACOPSIS** (Nyl.) Lindsay

**cribellans** (Nyl.) Räsänen

**fusciculoides** D. J. Galloway (Galloway 2005)

**gelida** (L.) Lindsay Syn.: Lecanora gelida

**lambii** Hertel & V. Wirth (Moberg & Carlin 1996; Brodo et al. 2001)

**roseonigra** Brodo

effusa I. M. Lamb = misidentification for North America

#### **PLACOPYRENIUM** Breuss

**bucekii** (Nádv. & Servít) Breuss (Breuss 2009)

**caeruleopulvinum** (J.W. Thomson) Breuss (Breuss 2002e) Syn.: Catapyrenium caeruleopulvinum

**canellum** (Nyl.) Gueidan & Cl. Roux Syn.: Verrucaria canella (Navarro-Rosínes et al. 2007)

**coloradoense** Breuss Syn.: Catapyrenium schaeferi sensu Thomson (Breuss 2009)

**conforme** Breuss (Breuss 2009)

**fuscillum** (Turner) Gueidan & Cl. Roux Syn.: Verrucaria fuscilla (Navarro-Rosínes et al. 2007)

**heppioides** (Zahlbr.) Breuss Syn.: Catapyrenium heppioides, Dermatocarpon heppioides (Breuss 2002e)

**lecideoides** (A. Massal.) Gueidan & Cl. roux Syn.: Dermatocarpon lecideoides, Verrucaria lecideoides (Navarro-Rosínes et al. 2007)

**#noxium** Breuss (Breuss 1998)

**stanfordii** (Herre) K. Knudsen Syn.: Catapyrenium zahlbruckneri, Dermatocarpon zahlbruckneri, Verrucaria stanfordii (Knudsen & Lendemer 2006)

zahlbruckneri (Hasse) Breuss (Breuss 2002e) = P. stanfordii

#### **PLACYNTHIELLA** Elenkin

**dasaea** (Stirton) Tønsberg (Tønsberg 1997 [1998])

**hyporhoda** (Th. Fr.) Coppins & P. James Syn.: Saccomorpha hyporhoda

**icmalea** (Ach.) Coppins & P. James Syn.: Saccomorpha icmalea

**knudsenii** Lendemer (Lendemer 2004d)

**oligotropha** (J. R. Laundon) Coppins & P. James Syn.: Saccomorpha oligotropha, Lecidea oligotropha

**uliginosa** (Schrader) Coppins & P. James Syn.: Saccomorpha uliginosa, Lecidea uliginosa, L. humosa

#### **PLACYNTHIUM** (Ach.) Gray

**asperellum** (Ach.) Trevisan

**flabellum** (Tuck.) Zahlbr.

**nigrum** (Hudson) Gray Syn.: Pannaria nigra

**pannariellum** (Nyl.) H. Magn. (Spribille et al. 2010)

**petersii** (Nyl.) Burnham Syn.: Pannaria petersii, Pterygium petersii

**stenophyllum** (Tuck.) Fink var. **stenophyllum** Syn.: Pannaria stenophylla

**stenophyllum** var. **isidiatum** Henssen

**subradiatum** (Nyl.) Arnold

**tantaleum** (Hepp) Hue

aspratile (Ach.) Henssen = P. asperellum

dubium Herre = Massalongia microphylliza

microphyllizum (Nyl. ex Hasse) Hasse = Massalongia microphylliza

pannariellum (Nyl.) H. Magn. Reported from Greenland and Iceland but not the U. S. or Canada as yet

rosulans (Th. Fr.) Zahlbr. Reported from Greenland but not the U. S. or Canada as yet

subnigrum B. de Lesd = Peccania subnigra

**PLAGIOCARPA** R. C. Harris = **LITHOTHELIUM**

hyalospora (Nyl.) R. C. Harris = *Lithothelium hyalosporum*  
illota (Nyl.) R. C. Harris = *Lithothelium illotum*  
langloisii R. C. Harris = *Lithothelium illotum*  
macrospora R. C. Harris = *Lithothelium macrosporum*  
phaeospora R. C. Harris = *Lithothelium phaeosporum*  
septemseptata R. C. Harris = *Lithothelium septemseptatum*

**PLATISMATIA** W. L. Culb. & C. F. Culb.

**glauca** (L.) W. L. Culb. & C. F. Culb. Syn.: *Cetraria glauca*  
**herrei** (Imshaug) W. L. Culb. & C. F. Culb. Syn.: *Cetraria herrei*, *C. tuckermanii* Herre non Oakes  
**lacunosa** (Ach.) W. L. Culb. & C. F. Culb. Syn.: *Cetraria lacunosa*  
**norvegica** (Lynge) W. L. Culb. & C. F. Culb. Syn.: *Cetraria norvegica*  
**stenophylla** (Tuck.) W. L. Culb. & C. F. Culb. Syn.: *Cetraria stenophylla*  
**tuckermanii** (Oakes) W. L. Culb. & C. F. Culb. Syn.: *Cetraria atlantica*, *C. lacunosa* var. *atlantica*, *C. tuckermanii* Oakes non Herre  
**wheeleri** Goward, Altermann & Björk (Lumbsch et al. 2011)

**PLATYGRAMME** Fée

**caesiopruinosa** (Fée) Fée Syn.: *Phaeographina caesiopruinosa*, *P. plurifera* (Staiger 2002)  
**coccinea** F. Seavey & J. Seavey (Seavey & Seavey 2014a)  
**elegantula** F. Seavey & J. Seavey (Seavey et al. 2017)  
**pachnodes** (Fée) E. Tripp & Lendemer (Tripp & Lendemer 2010, Lücking et al. 2011b)  
**praestans** (Müll. Arg.) Staiger (Tripp & Lendemer 2010, Lücking et al. 2011b)

**PLATYGRAPHA** Nyl.

**californica** (Tuck.) Nyl. = *Sigridea californica*  
**hypothallina** Zahlbr. = *Lecanographa hypothallina*  
**ocellata** Nyl. = *Mazosia ocellata*  
**plurilocularis** Zahlbr. = *Paraschismatomma ochroleucum* (Ertz & Tehler 2011)  
**ravenelii** Tuck. = *Opegrapha ravenelii*  
**subattingens** Nyl. = *Lecanactis epileuca*

**PLATYGRAPHOPSIS** Müll. Arg.

**interrupta** (Fée) Müll. Arg.

**PLATYTHECIUM** Staiger

**colliculosum** (Mont.) Hale Syn.: *Graphina colliculosa* (Tripp et al. 2010)  
**floridanum** (Tuck.) Lendemer Syn.: *Graphis floridana*, *Graphina floridana* (Lendemer & Knudsen 2008)  
**grammitis** (Fée) Staiger (Staiger 2002)

**PLECTOCARPON** Fée

\***cladoniae** R. Sant. (Ertz et al. 2005)  
\***lambinonii** Diederich & Etayo (Ertz et al. 2005)  
\***lichenum** (Sommerf.) D. Hawksw.  
\***nashii** Hafellner (Hafellner et al. 2002)  
\***nephromeum** (Norman) Sant. (Goward et al. 1996)  
\***peltigerae** Zhurb., Ertz, Diederich & Miädl. (Ertz et al. 2003)  
\***scrobiculatae** Diederich & Etayo (Ertz et al. 2005)  
\***triebeliae** Diederich & Ertz (Ertz et al. 2005)

**PLEOPSISIDIUM** Körber

**chlorophanum** (Wahlenb.) Zopf Syn.: *Acarospora chlorophana*, *A. erythrophora*, *A. texana*, *A. weldensis*

**flavum** (Bellardi) Körber Syns.: *Acarospora flava*, *A. oxytona*  
*oxytonum* (Ach.) Rabenh. = *P. flavum*  
*stenosporum* (Stizenb. ex Hasse) K. Knudsen (Knudsen 2011c) = *P. flavum* (Knudsen & Kocourková 2013)

PLEUROTHERIOPSIS Zahlbr. = PYRENULA  
*australiensis* (Müll. Arg.) Zahlbr. = *Anthracotheceium australiensis*  
*nana* Zahlbr. = *Anthracotheceium australiensis*

PLEUROTREMA Müll. Arg. = LITHOTHELIUM  
*anacardii* (Vainio) R. C. Harris nom. inval. = *Anisomeridium terminatum*  
*inspersum* Müll. Arg. = *Anisomeridium americanum*, not present in North America? (Harris 1995)  
*solivagum* Degel. = *Lithothelium hyalospora*

#### POELTINULA Hafellner

**cerebrina** (DC.) Hafellner  
**POLYBLASTIA** A. Massal.  
**albida** Arnold (Thomson 1997)  
**amota** Arnold (McCune et al. 2014b)  
**bryophila** Lönnr.  
**cucurbitula** J. W. Thomson & B. M. Murray  
**cupularis** A. Massal. Syn.: *Verrucaria intercedens*  
**epigaea** A. Massal.  
**exalbida** (Nyl.) Zahlbr. (Dillman et al. 2012)  
**gothica** Th. Fr.  
**hyperborea** Th. Fr.  
**hyperborea** var. **macrospora** Lynge  
**obsoleta** Arnold  
**quartzina** Lynge (Spribille et al. 2010)  
**sendtneri** Kremp.  
**septentrionalis** Lynge  
*cruenta* (Körber) P. James & Swinscow = *Sporodictyon cruentum*  
*gelatinosa* (Ach.) Th. Fr. = *Agonimia gelatinosa*  
*henscheliana* (Körber) Lönnr. (Fink 1935) = *Sporodictyon cruentum* (Vitikainen et al. 1997)  
*integrascens* (Nyl.) Vainio = *P. hyperborea*  
*intercedens* (Nyl.) Lönnr. = *P. cupularis*  
*melaspora* (Taylor) Zahlbr. = *Henrica melaspora* (Savić & Tibell 2008)  
*sommerfeltii* Lynge = *Sporodictyon terrestre*  
*terrestris* Th. Fr. = *Sporodictyon terrestre*  
**theleodes** (Sommerf.) Th. Fr. = *Henrica theleodes* (Savić & Tibell 2008)  
*tristricula* (Nyl.) Arnold = *Agonimia tristricula*

POLYBLASTIOPSIS Zahlbr. = JULELLA  
*dealbens* Fink = *Dictyomeridium amylosporum*  
<sup>+</sup>*dispora* (Müll. Arg.) Zahlbr. = *Julella dispora*  
<sup>+</sup>*fallaciosa* (Stizenb. ex Arnold) Zahlbr. = *Julella fallaciosa*  
*fallax* (Nyl.) Fink = *Arthopyrenia analepta*  
*floridana* Fink = *Porina nuculastrum*  
*inductula* (Nyl.) Fink = *Thelenella inductula*  
*intrusa* (Nyl.) Zahlbr. = *a Laurera* sp., not in North America  
<sup>+</sup>*lactea* (A. Massal.) Zahlbr. = *Julella lactea*  
<sup>+</sup>*quercicola* Brodo = *Julella fallaciosa*  
<sup>+</sup>*rappii* Zahlbr. = *Julella geminella*  
<sup>+</sup>*sublactea* (Nyl.) Zahlbr. = *Julella sublactaea*

POLYCAULIONA Hue (Arup et al. 2013)



**ascendens** (S. Y. Kondr.) Frödén, Arup, & Søchting Syn.: *Xanthoria ascendens*  
**bolacina** (Tuck.) Arup, Frödén & Søchting Syn.: *Caloplaca bolacina*, *Placodium bolacinum*  
**brattiae** (W. A. Weber) Arup, Frödén & Søchting Syn.: *Caloplaca brattiae*  
**candelaria** (L.) Frödén, Arup, & Søchting Syn.: *Teloschistes candelarius*, *Xanthoria candelaria*  
**coralloides** (Tuck.) Hue Syn.: *Caloplaca coralloides*, *Placodium coralloides*  
**flavogranulosa** (Arup) Arup, Frödén & Søchting Syn.: *Caloplaca flavogranulosa*  
**ignea** (Arup) Arup, Frödén & Søchting Syn.: *Caloplaca ignea*  
**impolita** (Arup) Arup, Frödén & Søchting Syn.: *Caloplaca impolita*  
**inconspecta** (Arup) Arup, Frödén & Søchting Syn.: *Caloplaca inconspecta*  
**ludificans** (Arup) Arup, Frödén & Søchting Syn.: *Caloplaca ludificans*  
**luteominia** (Tuck.) Arup, Frödén & Søchting var. **luteominia** Syn.: *Blastenia luteominia*, *Caloplaca laeta*, *C. luteominia*, *Placodium luteominium*  
**luteominia** var. **bolanderi** (Tuck.) Arup, Frödén & Søchting Syn.: *Caloplaca bolanderi*, *Placodium ferrugineum* f. *bolanderi*  
**nashii** (Nav.-Ros., Gaya & Hladún) Arup, Frödén & Søchting Syn.: *Caloplaca nashii*  
**phlogina** (Ach.) Arup, Frödén & Søchting Syn.: *Caloplaca phlogina*  
**pollinarioides** (L. Lindblom & D.M. Wright) Frödén, Arup, & Søchting Syn.: *Xanthoria pollinarioides*  
**polycarpa** (Hoffm.) Frödén, Arup, & Søchting Syn.: *Teloschistes polycarpus* T. *ramulosus*, *Xanthoria polycarpa*, *X. ramulosa*  
**rosei** (Hasse) Arup, Frödén & Søchting Syn.: *Caloplaca rosei*  
**stellata** (Wetmore & Kärnefelt) Arup, Frödén & Søchting Syn.: *Caloplaca stellata*  
**tenax** (L. Lindblom) Frödén, Arup, & Søchting Syn.: *Xanthoria tenax*  
**tenuiloba** (L. Lindblom) Frödén, Arup, & Søchting Syn.: *Xanthoria tenuiloba*  
**verruculifera** (Vainio) Arup, Frödén & Søchting Syn.: *Caloplaca gloriae* sensu Aprot, *C. verruculifera*

#### **POLYCHIDIUM** (Ach.) Gray

**muscicola** (Sw.) Gray Syn.: *Leptogium muscicola*  
**albociliatum** (Desm.) Zahlbr. = *Leptochidium albociliatum*  
**contortum** Henssen = *Leptogidium contortum* (Muggia et al. 2011)  
**dendriscum** (Nyl.) Henssen = *Leptogidium dendriscum* (Muggia et al. 2011)  
**intricatum** (Nyl.) Henssen = *Dendriscoaulon intricatum*  
**rivale** (Tuck.) Fink = *Scytinium rivale*  
**umhausense** (Auersw.) Henssen = *Dendriscoaulon umhausense*

#### **POLYCOCCUM** Sauter ex Körber

**\*clauzadei** Nav.-Ros. & Cl. Roux (Hafellner et al. 2002)  
**\*hymeniicola** (Berk. & Broome) Zhurb. (Spribille et al. 2010, Zhurbenko & Dillman 2010)  
**\*kernerii** J. Steiner (Hafellner et al. 2002)  
**\*laursenii** Zhurb. (Zhurbenko & Alstrup 2004)  
**\*microcarpum** Diederich & Etayo (Zhurbenko & Pino-Bodas 2017)  
**\*microsticticum** (Leighton ex Mudd) Arnold  
**\*minutulum** Kocourková & F. Berger (Diederich 2003)  
**\*opulentum** (Th. Fr. & Almq.) Arnold (Hafellner et al. 2002)  
**\*peltigerae** (Fuckel) Vězda (Alstrup 2004)  
**\*pulvinatum** (Eitner) R. Sant.  
**\*sporastatae** (Anzi) Arnold  
**\*squamarioides** (Mudd) Arnold  
**\*trypethelioides** (Th. Fr.) R. Sant. (Diederich 2003)  
**\*vermicularium** (Lindsay) D. Hawksw. (Esslinger & Egan 1995)  
**\*bryonthae** (Arnold) Vězda (Zhurbenko 2009a) = *Didymocyrtis bryonthae* (Ertz et al. 2015a)  
**\*epicrassum** (H. Olivier) R. Sant. = *Clypeococcum epicrassum*, but see note there  
**\*galligenum** Vězda = *P. pulvinatum*  
**\*gelidarium** (Mudd) D. Hawksw. = *Roselliniopsis gelidaria*

#### **POLYDESMIA** Boud.

\***lichenis** Huhtinen & R. Sant. (Spribille et al. 2010)

**POLYMERIDIUM** (Müll. Arg.) R. C. Harris

**albidum** (Müll. Arg.) R. C. Harris

**albocinereum** (Kremp.) R. C. Harris

**catapastum** (Nyl.) R. C. Harris

**contendens** (Nyl.) R. C. Harris

**quinqueseptatum** (Nyl.) R. C. Harris Syn.: *Arthopyrenia quinqueseptata*, *Pyrenula quinqueseptata*

**subcinereum** (Nyl.) R. C. Harris Syn.: *Porina subcinerea*

*pleiomerellum* (Müll. Arg.) R. C. Harris = *P. albocinereum*

**proponens** (Nyl.) R. C. Harris Syn. = *Dictyomeridium proponens*

**POLYPYRENULA** D. Hawksw.

*sexlocularis* (Müll. Arg.) D. Hawksw. Syn.: *Polythelis sexlocularis*. The implied occurrence of this species in Florida is questionable. No material seen from North America

**POLYSPORINA** Vězda

\***arenacea** (H. Magn.) K. Knudsen & Kocourk. Syn.: *Acarospora arenacea* (Knudsen & Kocourková 2008a)

**cyclocarpa** (Anzi) Vězda (Knudsen et al. 2011b)

**gyrocarpa** (H. Magn.) N. S. Golubk. Syn.: *Sarcogyne oligospora*, *S. gyrocarpa* (Knudsen & Kocourková 2009c)

\***pusilla** (Anzi) M. Steiner ex Kantvilas (Knudsen & Kocourková 2008a)

**simplex** (Taylor) Vězda Syn.: *Biatorella revertens*, *B. simplex*, *Lecanora privigna*, *Sarcogyne simplex*

\***subfuscescens** (Nyl.) K. Knudsen & Kocourk. Syn.: *Acarospora subfuscescens*, *Sarcogyne bicolor* (Knudsen & Kocourková 2008a)

**urceolata** (Anzi) Brodo

*lapponica* (Ach. ex Schaerer) Degel. = *Sarcogyne lapponica* (see note there)

\**lapponica* auct. N.A. = *Polysporina subfuscescens*

*oligospora* (H. Magn.) K. Knudsen (Knudsen & Lendemer 2005a) = *P. gyrocarpa*

**POLYTHELIS** Clem. = **POLYPYRENULA**

*sexlocularis* (Müll. Arg.) Clem. = *Polypyrenula sexlocularis* (q.v.)

**PORINA** Müll. Arg.

**amygdalina** Müll. Arg.

**heterospora** (Fink ex J. Hedrick) R. C. Harris

**linearis** (Leighton) Zahlbr. (Nash 2002) Syn.: *Pseudosagedia linearis*, *Trichothelium lineare*

**norrlinii** Vainio (Fryday 2010)

**nucula** Ach.

**nuculastrum** (Müll. Arg.) R. C. Harris Syn.: *Clathroporina nuculastrum*, *C. confinis*, *Polyblastiopsis floridana* (Harris 1995a)

**pacifica** Brodo (Brodo 2004)

**peregrina** Tretiach & P. M. McCarthy (Aptroot 2002e)

**radicicola** P. M. McCarthy & Tønsberg (McCarthy & Tønsberg 1998)

**salicina** Müll. Arg.

**scabrida** R. C. Harris (Harris 1995a)

*aenea* (Wallr.) Zahlbr. = *Pseudosagedia aeneum*

*carpineae* (Pers. ex Ach.) Zahlbr. = *Pseudosagedia aeneum*

*cestrensis* (Tuck. ex E. Michener) Müll. Arg. = *Pseudosagedia cestrensis*

*chlorotica* (Ach.) Müll. Arg. = *Pseudosagedia chlorotica*

*cinerea* "(Pers.) Zahlbr." = nom. illeg. = *Strigula stigmatella*

*faginea* (Schaerer) Arnold = *Strigula stigmatella*

*guentheri* (Flotow) Zahlbr. = *Pseudosagedia guentheri*

*hibernica* P. James & Swinscow = misidentification for North America (Harris 1995a)

*lectissima* (Fr.) Zahlbr. = *Segrestia lectissima*

leptalea (Durieu & Mont.) A. L. Sm. = Segestria leptalea  
 linearis (Leighton) Zahlbr. = Pseudosagedia linearis  
 mammosa (Th. Fr.) Vainio = Segestria mammosa  
 mastoidea (Ach.) Müll. Arg. = misidentification for North America (Harris 1995a)  
 nitidula Müll. Arg. = Pseudosagedia nitidulum  
 nucula var. heterospora Fink = Porina heterospora  
 olivacea (Pers.) A. L. Sm. = misidentification for North America  
 plumbaria (Stizenb.) Hasse = Arthopyrenia plumbaria  
 pulla (Ach.) Müll. Arg. = an Arthopyrenia sp., not in North America  
 raphidosperma Müll. Arg. = Pseudosagedia raphidosperma  
 subcinerea (Nyl.) Zahlbr. = Polymeridium subcinereum  
 thaxteri R. Sant. = Pseudosagedia thaxteri  
 viridiseda (Nyl.) Zahlbr. = Strigula viridiseda

#### **POROCYPHUS** Körber

**coccodes** (Flotow) Körber Syn.: *P. furfurellus*  
**kenmorensis** (Holl ex Nyl.) Henssen  
 dispersus E. Dahl = *Thelignya lignyota*  
 furfurellus (Nyl.) Forssell = *P. coccodes*

#### **PORPIDIA** Körber

**albocaerulescens** (Wulfen) Hertel & Knoph Syn.: *Huilia albocaerulescens*, *Lecidea albocaerulescens*, *L. hebescens*  
**albocaerulescens** (Wulfen) Hertel & Knoph var. **polycarpiza** (Vainio) Rambold & Hertel (Rambold 1989)  
**calcareo** Gowan  
**carlottiana** Gowan  
**cinereoatra** (Ach.) Hertel & Knoph Syn.: *Huilia cinereoatra*, *Lecidea cinereoatra*  
**contraponenda** (Arnold) Knoph & Hertel  
**crustulata** (Ach.) Hertel & Knoph Syn.: *Huilia crustulata*, *Lecidea crustulata*  
**degelii** (H. Magn.) Lendemer Syn.: *Lecidea degelii* (Lendemer & Harris 2014c)  
**flavicunda** (Ach.) Gowan Syn.: *Huilia flavocaerulescens*, *Lecidea flavocaerulescens* (Fryday 2005)  
**flavocruenta** Fryday & Buschbom (Fryday 2005)  
**grisea** Gowan  
**lowiana** Gowan  
**macrocarpa** (DC.) Hertel & A. J. Schwab Syn.: *Huilia macrocarpa*, *H. nigrocruenta*, *Lecidea steriza*, *L. macrocarpa*, *L. platycarpa*, *L. phylliscina*, *L. contigua*, *L. soledifera*  
**melinodes** (Körber) Gowan & Ahti Syn.: *Aspicilia melinodes*, *Huilia melinodes*, *Lecidea melinodes*  
**ochrolemma** (Vainio) Brodo & R. Sant. Syn.: *Hymenelia ochrolemma*  
**platycarpoides** (Bagl.) Hertel Syn.: *Huilia platycarpoides*  
**rugosa** (Taylor) Coppins & Fryday Syn.: *Huilia glaucophaea*, *Lecidea glaucophaea* (Fryday 2005)  
**soledizodes** (Lamy ex Nyl.) J. R. Laundon Syn.: *Lecidea soledizodes*, *Huilia soledizodes* (Fryday et al. 2007)  
**speirea** (Ach.) Kremp. Syn.: *Lecidea speirea*  
**subsimplex** (H. Magn.) Fryday (Coppins & Fryday 2006b)  
**superba** (Körber) Hertel & Knoph Syn.: *Huilia superba*  
**thomsonii** Gowan  
**tuberculosa** (Sm.) Hertel & Knoph Syn.: *Huilia tuberculosa*, *Lecidea solediza*, *L. tumida*  
**zeoroides** (Anzi) Knoph & Hertel Syn.: *Lecidea macrocarpa* var. *trullisata*  
*diversa* (Lowe) Gowan = *P. contraponenda* (Fryday 2005)  
*flavocaerulescens* (Hornem.) Hertel & A. J. Schwab = *P. flavicunda* (Fryday 2005)  
*glaucophaea* (Körber) Hertel & Knoph = *P. rugosa* (Fryday 2005)  
*herteliana* Gowan = *P. cinereoatra* (Fryday 2005)  
*nigrocruenta* (Anzi) Diederich & Sérus. = *P. macrocarpa*  
*pseudomelinodes* A. J. Schwab = *Porpidia ochrolemma*  
*tahawasiana* Gowan = *P. subsimplex*



**PRONECTRIA** Clem.

- \***anisospora** (Lowen) Lowen Syn.: *Nectriella anisospora*
- \***dillmaniae** Zhurb. (Zhurbenko et al. 2005)
- \***erythrinella** (Nyl.) Lowen Syn.: *Nectriella erythrinella*
- \***fissuriprodiens** Etayo (Spribille et al. 2010)
- \***oligospora** Lowen & Rogerson
- \***robergei** (Mont. & Desm.) Lowen (Alstrup & Cole 1998)
- \***tibellii** Zhurb. (« tibellae ») (Zhurbenko & Alstrup 2004)
- \***walkerorum** Zhurb. (Zhurbenko et al. 2005)

**PROTOBLASTENIA** (Zahlbr.) J. Steiner

- calva** (Dickson) Zahlbr.
- cyclospora** (Hepp ex Körber) Poelt (Dillman et al. 2012)
- incrustans** (DC.) J. Steiner
- rupestris** (Scop.) J. Steiner
- terricola** (Anzi) Lynge
- cinnabarina* (Sommerf.) Räsänen = *Ramboldia cinnabarina*
- monticola* (Ach.) J. Steiner = *Clauzadea monticola*
- quernea* (Dickson) Clauzade = *Pyrrhospora quernea*
- rupestris* var. *calva* (Dickson) J. Steiner = *P. calva*
- russula* (Ach.) Räsänen = *Ramboldia russula*

**PROTOMICAREA** Hafellner (Hafellner & Türk 2001)

- limosa** (Ach.) Hafellner Syn.: *Lecidea limosa*

**PROTOPANNARIA** (Gyelnik) P. M. Jørg. & S. Ekman

- pezizoides** (Weber) P. M. Jørg. & S. Ekman (Jørgensen 2000c) Syn: *Pannaria pezizoides*

**PROTOPARMELIA** M. Choisy

- atriseda** (Fr.) R. Sant. & V. Wirth Syn.: *Lecanora atriseda*
- badia** (Hoffm.) Hafellner Syn.: *Lecanora badia*, *L. grandis*
- capitata** Lendemer (Lendemer & Lumbsch 2008)
- cupreobadia** (Nyl.) Poelt
- hypotremella** Herk, Spier & V. Wirth (Brodo & Aptroot 2005)
- isidiata** Diederich, Aptroot & Sérus. (Lendemer & Lumbsch 2008)
- leproloma** (R. Sant.) Rambold & Poelt (McCune 2017)
- memnonia** Hafellner & Türk (McCune 2017)
- nephaea** (Sommerf.) R. Sant. ex Poelt & Obermayer Syn.: *Lecanora nephaea*
- ochrococca** (Nyl.) P. M. Jørg., Rambold & Hertel Syns.: *Lecidea ochrococca*, *Lecanora ochrococca*, *L. phaeobola*
- <sup>#</sup>*ryaniana* van den Boom, Sipman & Elix (van den Boom et al. 2007) = *Miriquidica verrucariicola* (Knudsen et al. 2015)

**PROTOPARMELIOPSIS** M. Choisy

- bipruinosa** (Fink) S. Y. Kondr. (Kondratyuk et al. 2012) Syn.: *Lecanora bipruinosa*
- crustacea** (Savicz) S. Y. Kondr. (Kondratyuk et al. 2012) Syn.: *Lecanora crustacea*
- dispersoareolata** (Körber) S. Y. Kondr. (Kondratyuk et al. 2012) Syn.: *Lecanora dispersoareolata*
- garovaglii** (Körber) Arup, Zhao Xin & Lumbsch (Zhao et al. 2016) Syns.: *Lecanora cascadiensis*, *L. garovaglii*, *L. nevadensis*
- geiserae** (B. D. Ryan) S. Y. Kondr. (Kondratyuk et al. 2012) Syn.: *Lecanora geiserae*
- gyrophorica** (Lendemer) S. Y. Kondr. (Kondratyuk et al. 2013) Syn.: *Lecanora gyrophorica*
- kofae** (B. D. Ryan & T. H. Nash) (Kondratyuk et al. 2012) Syn.: *Lecanora kofae*
- laatokkaensis** (Räsänen) Moberg & R. Sant. Syn.: *Lecanora laatokkaensis*
- mazatzalensis** (B. D. Ryan & T. H. Nash) S. Y. Kondr. (Kondratyuk et al. 2013) Syn.: *Lecanora mazatzalensis*

**muralis** (Schreber) M. Choisy (Zhao et al. 2016) Syns.: *Lecanora diffracta*, *L. muralis*, *L. saxicola*, *L. versicolor*  
**peltata** (Ramond) Arup, Zhao Xin & Lumbsch (Zhao et al. 2016) Syn.: *Rhizoplaca peltata*, *Lecanora peltata*  
**pinguis** (Tuck.) S. Y. Kondr. (Kondratyuk et al. 2013) Syn.: *Lecanora pinguis*

#### **PROTOTHELENELLA** Räsänen

**corrosa** (Körber) H. Mayrhofer & Poelt Syn.: *Microglæna corrosa*  
**\*crocea** (Bagl. & Carestia) Haffelner & H. Mayrhofer (Spribille et al. 2010)  
**leucothelia** (Nyl.) H. Mayrhofer & Poelt (Goward et al. 1996)  
**pluriseptata** Fryday (Fryday 2004a) Syn.: *Gongylia muscorum*  
**\*santessonii** H. Mayrhofer  
**sphinctrinoidella** (Nyl.) H. Mayrhofer & Poelt (Mayrhofer 1987)  
**sphinctrinoides** (Nyl.) H. Mayrhofer & Poelt Syn.: *Microglæna sphinctrinoides*, *Verrucaria pernigrata*

#### **PROTOUNGUICULARIA** Raitv. & R. Galán

**\*nephromatis** (Zhurb. & Zavarzin) Huhtinen, D. Hawksw. & Ihlen (Huhtinen et al. 2008) Syn.:  
*Unguiculariopsis nephromatis*  
**\*transiens** (Höhn.) Huhtinen (Huhtinen et al. 2008)

#### **PSEUDEPHEBE** M. Choisy

**minuscula** (Nyl. ex Arnold) Brodo & D. Hawksw. Syn.: *Alectoria minuscula*  
**pubescens** (L.) M. Choisy Syns.: *Alectoria pubescens*, *Ephebe pubescens*, *Parmelia lanata* (According to a molecular study by Boluda et al. (2016), *P. pubescens* has not been confirmed for North America)

#### **PSEUDEVERNIA** Zopf

**cladonia** (Tuck.) Hale & W. L. Culb. Syn.: *Parmelia cladonia*  
**consocians** (Vainio) Hale & W. L. Culb.  
**intensa** (Nyl.) Hale & W. L. Culb.  
*furfuracea* (L.) Zopf = misidentification for North America; records are either *P. consocians* or *P. intensa*

#### **PSEUDOCYPHELLARIA** Vainio

**citrina** (Gyeln.) Lücking, Moncada & S. Stenroos (Lücking et al. 2017a)  
**deyi** Lücking (Lücking et al. 2017a)  
**epiflavoides** (Gyeln.) Lücking, Farkas & Lőkös (Lücking et al. 2017a)  
**hawaiiensis** H. Magn. (Moncada et al. 2014)  
**holarctica** McCune, Lücking & Moncada (Lücking et al. 2017a)  
**mallota** (Tuck.) H. Magn. (Tønsberg 1999b)  
**punctata** Lücking & Moncada (Lücking et al. 2017a)  
**rainierensis** Imshaug  
*anomala* Brodo & Ahti = *Lobaria anomala* (McCune et al. 2014b)  
*anthraspis* (Ach.) H. Magn. = *Lobaria anthraspis* (McCune et al. 2014b)  
*aurata* (Ach.) Vainio = *Crocodia aurata* (Galloway & Elix 2013)  
**crocata** (L.) Vainio [Misidentifications for North America](#) (Lücking et al. 2017a)  
*mougeotiana* (Delise) Vainio = *P. crocata*, but misidentifications for North America  
*perpetua* McCune & Miądl. (Miądlowska et al. 2002) = *P. hawaiiensis* (Moncada et al. 2014)

#### **PSEUDOPARMELIA** Lynge (Elix & Nash 1997)

**cubensis** (Nyl.) Elix & T. H. Nash (Elix & Nash 1997) Syn.: *Parmelia leucochlora* Tuck. non (Mont.) Mont.  
**floridense** Elix & T. H. Nash (Elix & Nash 1997)  
**uleana** (Müll. Arg.) Elix & T. H. Nash (Elix & Nash 1997) Syn.: *Parmelia uleana*, *Parmelia endoxantha*, *Parmelia congruens* auct., *Parmelia sphaerospora* auct.  
*alabamensis* (Hale & McCull.) Hale = *Canoparmelia alabamensis*  
*amazonica* (Nyl.) Hale = *Canoparmelia amazonica*



baltimorensis (Gyelnik & Főriss) Hale = Flavoparmelia baltimorensis  
 caperata (L.) Hale = Flavoparmelia caperata  
 caroliniana (Nyl.) Hale = Canoparmelia caroliniana  
 crozalsiana (B. de Lesd.) Hale = Canoparmelia crozalsiana  
 cryptochlorophaea (Hale) Hale = Canoparmelia cryptochlorophaea  
 martinicana (Nyl.) Hale = Canoparmelia martinicana  
 rutidota (Hooker f. & Taylor) Hale = Flavoparmelia rutidota  
 salacinifera (Hale) Hale = Canoparmelia salacinifera  
 sphaerospora (Nyl.) Hale (North American records) = Pseudoparmelia uleana  
 texana (Tuck.) Hale = Canoparmelia texana

**PSEUDOPYRENIDIUM** Nav.-Ros., Zhurb. & Cl. Roux  
 \***tartaricola** (Lindsay) Nav.-Ros., Zhurb. & Cl. Roux (Zhurbenko 2013)

**PSEUDOPYRENULA** Müll. Arg.  
**diluta** (Fée) Müll Arg. var. **degenerans** Vainio (Harris 1998)  
**staphyleae** (Petr.) Aptroot Syn.: *Massarina staphyleae* (Aptroot et al. 2016)  
**subgregaria** Müll. Arg. (Lücking et al. 2011b)  
**subnudata** Müll. Arg. (Lücking et al. 2011b)  
 pupula (Ach.) Müll. Arg. = *Trypethelium floridanum* for North American records

**PSEUDOSAGEDIA** (Müll. Arg.) M. Choisy (Harris 2005)  
**aenea** (Wallr.) Hafellner & Kalb Syn.: *Trichothelium aeneum*, *Porina aenea*, *P. carpinea*  
**cestrensis** (Tuck. ex E. Michener) R. C. Harris Syns.: *Porina cestrensis*, *Trichothelium cestrense*, *Verrucaria cestrensis*  
**chlorotica** (Ach.) Hafellner & Kalb Syn.: *Porina chlorotica*, *Trichothelium chloroticum*  
**crocynoides** (R. C. Harris) R. C. Harris Syn.: *Trichothelium crocynoides*  
**guentheri** (Flotow) Hafellner & Kalb Syn.: *Porina guentheri*, *Trichothelium guentheri*  
**isidiata** (R. C. Harris) R. C. Harris Syn.: *Trichothelium isidiatum*  
**nitidula** (Müll. Arg.) Hafellner & Kalb Syn.: *Porina nitidula*, *Trichothelium nitidulum*  
**rhaphidosperma** (Müll. Arg.) R. C. Harris Syns.: *Porina rhaphidosperma*, *Trichothelium rhaphidospermum*  
**thaxteri** (R. Sant.) Hafellner & Kalb Syn.: *Porina thaxteri*, *Trichothelium thaxteri*  
 linearis (Leighton) Hafellner & Kalb = *Porina linearis*

**PSEUDOSCHISMATOMMA** Ertz & Tehler (Ertz et al. 2015b)  
**rufescens** (Pers.) Ertz & Tehler Syn.: *Opegrapha rufescens*

**PSEUDOTHELOMMA** M. Prieto & Wedin (Prieto & Wedin 2017)  
**ocellatum** (Körber) M. Prieto & Wedin Syns.: *Acolium ocellatum*, *Thelomma ocellatum*  
**occidentale** (Herre) M. Prieto & Wedin Syn.: *Cyphelium occidentale*, North American records of *Cyphelium caliciforme* probably belong here.

**PSIROLECHIA** A. Massal.  
**clavulifera** (Nyl.) Coppins Syn.: *Lecidea adirondackii*  
**lucida** (Ach.) M. Choisy Syn.: *Lecidea lucida*

**PSORA** Hoffm.  
**brunneocarpa** Timdal (Timdal 2002a)  
**californica** Timdal  
**cerebriformis** W. A. Weber  
**crenata** (Taylor) Reinke Syns.: *Lecidea crenata*, *L. coroniformis*  
**decipiens** (Hedwig) Hoffm. Syns.: *Biatora decipiens*, *Lecidea decipiens*  
**elenkinii** Rass. (Zhurbenko 2009a)  
**globifera** (Ach.) A. Massal. Syn.: *Lecidea globifera*  
**himalayana** (Church. Bab.) Timdal



**hyporubescens** Timdal (Timdal 2002a)  
**icterica** (Mont.) Müll. Arg. Syn.: *Lecidea icterica*  
**luridella** (Tuck.) Fink Syn.: *Lecidea luridella*  
**montana** Timdal  
**nipponica** (Zahlbr.) Gotth. Schneider Syns.: *Lecidea novomexicana*  
**pacifica** Timdal  
**peninsularis** Timdal (Timdal 2002a)  
**pruinosa** Timdal (Timdal 2002a)  
**pseudorussellii** Timdal  
**rubiformis** (Ach.) Hooker Syn.: *Lecidea rubiformis*  
**russellii** (Tuck.) A. Schneider Syns.: *Lecidea russellii*, *Biatora russellii*  
**tenuifolia** Timdal  
**tuckermanii** R. A. Anderson ex Timdal  
**vallesiaca** (Schaerer) Timdal  
*anthracophila* (Nyl.) Arnold = *Carbonicola anthracophila*  
*demissa* (Rutstr.) Hepp = *Lecidoma demissum*  
*friesii* (Ach.) Hellbom = *Xylopsora friesii*  
*lurida* (Ach.) DC. = *Romjularia lurida*  
*novomexicana* B. de Lesd. = *P. nipponica*  
*ostreata* Hoffm. = *Hypocenomyce scalaris*  
*petri* (Tuck.) Fink = *Romjularia lurida*  
*pulcherrima* (Vainio) Elenkin = *Anamylopsora pulcherrima*  
*rufonigra* (Tuck.) A. Schneider = *Psorula rufonigra*  
*scalaris* (Ach. ex Lilj.) Hooker = *Hypocenomyce scalaris*  
*scholanderi* (Lynge) R. A. Anderson = *Toninia tristis*  
*scotopholis* (Tuck.) Fink (Fink 1935) = *Miriquidica scotopholis*  
*testacea* (Hoffm.) Ach. Syns.: *Lecidea testacea*, *Chrysopsora testacea*, but not present in North American flora.  
*texana* W. A. Weber = *Xanthopsorella texana*

#### **PSORINIA** Gotth. Schneider

**conglomerata** (Ach.) Gotth. Schneider Syn.: *Toninia conglomerata*

#### **PSOROGLAENA** Müll. Arg.

**costaricensis** Henssen (Lücking et al. 2011b)  
**cubensis** Müll. Arg. var. **cubensis**  
**cubensis** var. **teretiloba** O. Eriksson  
**dictyospora** (Orange) H. Harada (Harada 2003) Syn.: *Macentina dictyospora*  
**stigonemoides** (Orange) Henssen (Björk et al. 2009)

#### **PSOROMA** Michaux

**cinnamomeum** Malme (Jørgensen 2000c)  
**hypnorum** (Vahl) Gray Syn.: *Pannaria hypnorum*  
**paleaceum** (Fr.) Timdal & Tønsberg  
**tenue** Henssen var. **boreale** Henssen  
**hirsutulum** Nyl. (Jørgensen 2005) = *P. paleaceum* (Timdal & Tønsberg 2006)

#### **PSOROTICHIA** A. Massal.

**hassei** Fink ex J. Hedrick  
**minuta** H. Magn.  
**montinii** (A. Massal.) Forssell (Schultz 2007c)  
**murorum** A. Massal. (Schultz 2007c)  
**nigra** H. Magn.  
**schaereri** (A. Massal.) Arnold Syn.: *Pyrenopsis schaeferi*  
**taurica** (Nyl.) Vainio (Schultz 2007c)  
**vermiculata** (Nyl.) Forssell (Knudsen et al. 2017)

numidella (Nyl.) Forssell var. flageyana J. Steiner Erroneously listed here; reported only from Mexico (Schulz 2007c)  
segregata (Nyl. ex Hasse) Hasse = Lempholemma chalazanum  
squamulosa Zahlbr. = Gloeohoppia squamulosa

**PSORULA** Gotth. Schneider

**rufonigra** (Tuck.) Gotth. Schneider Syn.: Biatora rufonigra, Lecidea rufonigra, L. brouardii, Psora rufonigra  
scotopholis (Tuck.) Gotth. Schneider = Miriquidica scotopholis

**PTERYGIOPSIS** Vainio

**atra** Vainio  
**canariensis** Henssen (Schultz 2006)  
**cava** M. Schultz (Schultz 2006)  
**neglecta** (Erichsen) M. Schultz & Thüs ined. Syn.: Forsellia neglecta (Lewis 2014)

**PTERYGIUM** Nyl.

petersii Nyl. (Fink 1935) = Placynthium petersii

**PTYCHOGRAPHA** Nyl. (McCune 1997b)

**xylographoides** Nyl. (McCune 1997b)

**PUNCTELIA** Krog

**appalachensis** (W. L. Culb.) Krog Syn.: Parmelia appalachensis  
**bolliana** (Müll. Arg.) Krog Syn.: Parmelia bolliana, P. frondifera  
**borreri** (Sm.) Krog Syn.: Parmelia borreri, P. pseudoborreri  
**caseana** Lendemer & Hodkinson (Lendemer & Hodkinson 2010)  
**eganii** Hodkinson & Lendemer (Hodkinson & Lendemer 2011)  
**graminicola** (B. de Lesd.) Egan Syn.: Parmelia graminicola, P. semansiana (Egan 2003)  
**hypoleucites** (Nyl.) Krog Syn.: Parmelia hypoleucites  
**jeckeri** (Roum.) Kalb (Lendemer & Hodkinson 2010)  
**missouriensis** G. Wilh. & Ladd (Adler 1997, van Herk & Aptroot 2000, Aptroot 2003)  
**nashii** Marcelli & Canêz (Marcelli et al. 2011)  
**perreticulata** (Räsänen) G. Wilh. & Ladd Syn.: Parmelia perreticulata  
**punctilla** (Hale) Krog  
**reddenda** (Stirton) Krog Syn.: Parmelia reddenda  
**rudecta** (Ach.) Krog Syn.: Parmelia rudecta  
**stictica** (Duby) Krog Syn.: Parmelia stictica  
**subpraesignis** (Nyl.) Krog Syn.: Parmelia subpraesignis  
darrowi (J. W. Thomson) Krog = Flavopunctelia darrowi  
flaventior (Stirton) Krog = Flavopunctelia flaventior  
praesignis (Nyl.) Krog = Flavopunctelia praesignis  
semansiana (W. L. Culb. & C. F. Culb.) Krog = P. graminicola  
soredica (Nyl.) Krog = Flavopunctelia soredica  
subrudecta (Nyl.) Krog = misidentification for North America (Lendemer & Hodkinson 2010)  
ulophylla (Ach.) van Herk & Aptroot (Tucker et al. 2006) = P. jeckeri (Lendemer & Hodkinson 2010)

**PUTTEA** S. Stenroos & Huhtinen

**caesia** (Fr.) M. Svensson & T. Sprib. (Dillman et al. 2012) Syn.: Lecidea symmictella  
**exsequens** (Nyl.) Printzen & Davydov (Buck & Lendemer 2012)  
**margaritella** (Hulting) S. Stenroos & Huhtinen (Spribille et al. 2010)

**PYCNORA** Hafellner (Hafellner & Türk 2001)

**praestabilis** (Nyl.) Hafellner Syn.: Hypocenomyce praestabilis  
**sorophora** (Vainio) Hafellner Syn.: Hypocenomyce sorophora

**xanthococca** (Sommerf.) Hafellner Syns.: *Hypocenomyce xanthococca*, *Lecidea xanthococca*  
*leucococca* (R. Sant.) R. Sant. (Santesson et al. 2004) = *Toensbergia leucococca*

**PYCNOTHELIA** Dufour

**papillaria** Dufour Syns.: *Cladonia heteromorpha*, *C. papillaria*  
*cladinoides* Nyl. = *Cladonia caroliniana* (Ahti & Brodo 1981)

**PYCNOTREMA** Rivas Plata & Lücking

**pyncoporellum** (Nyl.) Rivas Plata & Lücking Syn.: *Myriotrema pyncoporellum* (Lücking et al. 2016)

**PYRENASTRUM** Eschw. = **PYRENULA**

*astroideum* (Fée) Eschw. = *Pyrenula astroideum*  
*cubanum* Müll. Arg. = *Pyrenula cubana*  
*fuscum* Mont. = *Pyrenula septicollaris*  
*pyrenastraeum* (Nyl.) Zahlbr. = *Pyrenula septicollaris*

**PYRENIDIUM** Nyl.

\***actinellum** Nyl.  
\***aggregatum** K. Knudsen & Kocourk. (Knudsen & Kocourková 2010g)  
\***hyalosporum** Alstrup, D. Hawksw. & R. Sant.  
\***octosporum** Looman = *Thelenella muscorum* var. *octospora*

**PYRENOCARPON** Trevisan

**thelostomum** (Ach. ex J. Harriman) Coppins & Aptroot (Dillman et al. 2012)

**PYRENOCOLLEMA** Reinke

**atlanticum** (Vainio) R. C. Harris (Harris 1995a)  
**caesium** (Nyl.) R. C. Harris  
**prospersellum** (Nyl.) R. C. Harris Syn.: *Arthopyrenia prospersella*  
**tichothecioides** (Arnold) R. C. Harris Syn.: *Arthopyrenia tichothecioides*  
*elegans* R. Sant. = *Collemopsidium elegans*  
*halodytes* (Nyl.) R. C. Harris = *Collemopsidium halodytes*  
*strontianense* (Swinscow) R. C. Harris = *Collemopsidium angermannicum*  
*sublitorale* (Leighton) R. C. Harris ex Fletcher = *Collemopsidium sublitorale*

**PYRENODESMIA** A. Massal. (Arup et al. 2013)

**variabilis** (Pers.) A. Massal. Syn.: *Caloplaca variabilis*  
*albovariegata* B. de Lesd. = *Caloplaca albovariegata*  
*elaeodes* E. D. Rudolph = *Caloplaca pellodella*  
*montana* B. de Lesd. = a *Caloplaca* sp.

**PYRENOPSISIDIUM** (Nyl.) Forssell = **CRYPTOTHELE**

*granuliforme* (Nyl.) Forssell = *Cryptothele granuliformis*  
*homoeopsis* (Nyl.) Forssell = *Pyrenopsis furfurea*  
*iivarensis* (Vainio) Forssell (Thomson 1997) = *Pyrenopsis furfurea* (Henssen & Jørgensen 1990; Santesson 1993)

**PYRENOPSIS** (Nyl.) Nyl.

**compacta** Willey  
**furfurea** (Nyl.) Th. Fr. Syns.: *Pyrenopsidium homoeopsis*, *P. iivarensis*  
**fuscoatra** Fink  
**grumulifera** Nyl.  
**haemalella** (Nyl.) Blomb. & Forssell  
**haematina** P. M. Jörg. & Henssen (Spribille et al. 2010)  
**lecideella** Fink ex J. Hedrick  
**phaeococca** Tuck.



**polycocca** (Nyl.) Tuck.  
**portoricensis** Zahlbr. (fide Perlmutter, see appendix)  
**reducta** Th. Fr. (Hutten et al. 2013)  
**sanguinea** Anzi  
**subareolata** Nyl. (Schultz 2009)  
**subfuliginea** Nyl.  
**tasmanica** Nyl.  
**triptococca** Nyl. (Schultz 2007d)  
**viridirufa** Tuck.  
 granatina (Sommerf.) Nyl. = *Euopsis granatina*  
 granuliformis (Nyl.) Th. Fr. = *Cryptothele granuliforme*  
 homoeopsis Nyl. = *P. furfurea*  
 melambola (Tuck.) Tuck. = *Metamelanea melambola*  
 "multispora E. Dahl" Report probably refers to *P. myriospora* E. Dahl = *P. grumulifera*  
 myriospora E. Dahl = *P. grumulifera*  
 phylliscina (Tuck.) Tuck. = *Cryptothele permiscens*  
 pulvinata (Schaerer) Th. Fr. = *Euopsis pulvinata*  
 schaereri A. Massal. = *Psorotichia schaereri*

**PYRENOTHAMNIA** Tuck. = **ENDOCARPON**  
 brandegei (Tuck.) Zahlbr. = *Endocarpon pulvinatum*  
 spraguei Tuck. = *Endocarpon pulvinatum*

**PYRENOTHRIX** Riddle  
 nigra Riddle Syn.: *Lichenothrix riddlei*

**PYRENOTRICHUM** Mont.  
 splitgerberi Mont. = campylidia of lichens

**PYRENULA** A. Massal.  
 acutalis R. C. Harris  
 acutispora Kalb & Hafellner (Aptroot 1996)  
 adacta Fée (Aptroot 2012)  
 anomala (Ach.) Vainio Syn.: *Melanotheca anomala*, *M. achariana*  
 aspistea (Ach.) Ach.  
 astroidea (Fée) R. C. Harris Syn.: *Parmentaria astroidea*  
 atrolaminata R. C. Harris (Aptroot 1996)  
 bahiana Malme (Aptroot 2012)  
 balia (Kremp.) R. C. Harris (Aptroot 2012)  
 breutelii (Müll. Arg.) Aptroot (Aptroot 2012) Syn.: *Anthracotheceum maculare*  
 brunnea Fée (Lücking et al. 2011b)  
 caryae R. C. Harris (Aptroot 1996)  
 cerina Eschw.  
 chlorospila (Nyl.) Arnold (Aptroot 2012)  
 circumfiniens Vainio (Aptroot 2012) Syn.: *Parathelium subferrugineum*  
 clavatispora Common & Aptroot (Aptroot & Common 2017)  
 cocoes Müll. Arg.  
 confinis (Nyl.) R. C. Harris (Lücking et al. 2011b)  
 confoederata R. C. Harris  
 cruenta (Mont.) Vainio Syn.: *Melanotheca cruenta*, *M. subincruenta*, *Trypethelium cruentum*  
 cruentata (Müll. Arg.) R. C. Harris Syn.: *Bottaria cruentata*  
 cubana (Müll. Arg.) R. C. Harris Syn.: *Pyrenastrum cubanum*  
 cuyabensis (Malme) R. C. Harris Syn.: *Parathelium cuyabense*  
 dermatodes (Borrer) Schaerer (Lücking et al. 2011b)  
 dissimulans (Müll. Arg.) R. C. Harris (Seavey & Seavey 2014a)  
 duplicans (Nyl.) Aptroot (Lücking et al. 2011b)

**erumpens** R. C. Harris Syn.: Parathelium emergens  
**fetivica** (Kremp.) Müll. Arg. (Aptroot 2012)  
**globifera** (Eschw.) Aptroot (Lücking et al. 2011b)  
**laetior** Müll. Arg. (Harris 1995a)  
**laevigata** (Pers.) Arnold  
**leucostoma** Ach. Syn.: Anthracothecium leucostomum, Parmentaria rappii  
**macounii** R. C. Harris  
**mamillana** (Ach.) Trevisan (fide R. Harris)  
**micheneri** R. C. Harris  
**microcarpa** Müll. Arg.  
**microtheca** R. C. Harris Syn.: Parathelium microcarpum  
**minor** Fée (Seavey & Seavey 2014a)  
**nitidula** (Bres.) R. C. Harris (Harris 1995a)  
**novemseptata** Vainio (Aptroot 2012) Syn.: Anthracothecium varians  
**occidentalis** (R. C. Harris) R. C. Harris  
**ochraceoflava** (Nyl.) R. C. Harris Syn.: Anthracothecium ochraceoflavum  
**ochraceoflavens** (Nyl.) R. C. Harris Syn.: Anthracothecium ochraceoflavens  
**oleosa** R. C. Harris  
**parvinuclea** (Meyen & Flotow) Aptroot (Seavey & Seavey 2014a)  
**papillifera** (Nyl.) Aptroot (Aptroot 2012)  
**pleiomera** (Nyl.) Zahlbr. (Seavey & Seavey 2014a)  
**pseudobufonia** (Rehm) R. C. Harris  
**punctella** (Nyl.) Trevisan  
**pyrenuloides** (Mont.) R. C. Harris Syn.: Anthracothecium pyrenuloides  
**quassiicola** Fée  
**ravenelii** (Tuck.) R. C. Harris Syn.: Parmentaria ravenelii  
**rubrostoma** R. C. Harris  
**schiffneri** (Zahlbr.) Aptroot (Aptroot 2012) Syn. Anthracothecium falsarium  
**septicollaris** (Eschw.) R. C. Harris Syn.: Pyrenastrum fuscum, P. pyrenastraeum  
**sexlocularis** (Nyl.) Müll. Arg. (Lücking et al. 2011b)  
**subelliptica** (Tuck.) R. C. Harris  
**subgregantula** Müll. Arg. (Aptroot 2012)  
**tenuisepta** R. C. Harris  
**thelomorpha** Tuck. Syn.: Anthracothecium thelomorphum  
**wetmorei** R. C. Harris  
**wheeleri** R. C. Harris  
 aggregata (Fée) Fée (Mohr 1901) = misidentification for North America  
 aquila R. C. Harris = P. aspistea (Aptroot 2012)  
 caraibica Aptroot & Etayo (Etayo & Aptroot 2003) = Pyrenula adacta (Aptroot 2012)  
 cerasi (Schrader) Hepp = Arthopyrenula cerasi  
 cinchonae (Ach.) Tuck. (Mohr 1901) = [Constrictolumina cinchonae](#)  
 cinerea Zahlbr. = P. microcarpa  
 cinerella (Nyl.) Branth & Rostr. (Claassen 1912) = Microthelia micula  
 citriformis R. C. Harris = P. fetivica (Aptroot 2012)  
 clandestina Ach. (Fink 1935) Typographic error for Pyrenula clandestina Ach. = Ocellularia  
 clandestine (Ach.) Müll. Arg., an apparent misidentification for N. America  
 concatervans (Nyl.) R. C. Harris = P. sexlocularis (Aptroot 2012)  
 corticata (Müll. Arg.) R. C. Harris = P. confinis (Aptroot 2012)  
 falsaria (Zahlbr.) R. C. Harris = P. schiffneri (Aptroot 2012)  
 farrea auct. = Eopyrenula leucoplaca, but a misidentification for North America  
 fulvella R. C. Harris = P. subgregantula  
 glabrata (Ach.) A. Massal. = P. laevigata  
 herrei Fink = Arthopyrenia plumbaria  
 imperfecta (Ellis & Everh.) R. C. Harris = P. subelliptica  
 leucoplaca (Wallr.) Körber = Eopyrenula leucoplaca, but a misidentification for North America  
 leucoplaca var. pluriloculata Fink = Eopyrenula intermedia

*lucifera* R. C. Harris = *Pyrenula dermatodes* (Aptroot 2012)  
*macularis* (Zahlbr.) R. C. Harris = *P. breutelii* (Aptroot 2012)  
*maculata* (R. C. Harris) R. C. Harris = *P. chlorospila* (Aptroot 2012)  
*mamillana* (Ach.) Trevisan = misidentification for North America  
*marginata* Hooker = *P. mamillana*  
*martinicana* (Vainio) R. C. Harris = *P. adacta*  
*megalospora* Fink = *Acrocordia megalospora*  
*mucosa* (Vainio) R. C. Harris (Harris 1995a) = *P. papillifera* (Aptroot 2012)  
*neglecta* R. C. Harris = *P. pseudobufonia*  
*nitida* (Weigel) Ach. = misidentification for North America  
*nitidella* (Flörke ex Schaerer) Müll. Arg. var. *maculata* R. C. Harris = *P. chlorospila* (Aptroot 2012)  
*pachycheila* Tuck. (Tuckerman 1872) = *Anthracotheceum pachycheilum*  
*personata* (Malme) R. C. Harris = *P. subgregantula* (Aptroot 2012)  
*pinguis* (Sprengel) Fée = misidentification for North America  
*plittii* R. C. Harris = *P. nitidula* (Aptroot 2012)  
*pulicina* Nyl. (Fink 1935) Not located in any available source (Esslinger & Tucker 2009)  
*quinqueseptata* (Nyl.) Tuck. (Tuckerman 1872) = *Polymeridium quinqueseptatum*  
*reebiae* Aptroot & Gueidan (Gueidan et al. 2016) = *P. leucostoma* (Lendemer & Harris 2016)  
*santensis* (Nyl.) Müll. Arg. = *P. balia* (Aptroot 2012)  
*subaggregata* Müll. Arg. Not in North America  
*subferruginea* (Malme) R. C. Harris = *P. circumfiniens* (Aptroot 2012)  
*subprostans* (Nyl.) Tuck. (Tuckerman 1872) = *Anisomeridium subprostans*  
*texana* Tuck. ex R. C. Harris = *P. microcarpa*  
*tropica* (Ach.) Trevisan = *Nigrovothelium tropicum*  
*xyloides* (Eschw.) Müll. Arg. = *P. mamillana*

#### PYRENULELLA Fink = PHAEOSPORA

\**endococcoidea* (Nyl.) Fink = *Phaeospora rimosicola*

#### PYRGILLUS Nyl.

**javanicus** (Mont. & Bosch) Nyl.  
*americanus* Nyl. = *P. javanicus*

#### PYRRHOSPORA Körber

**quernea** (Dickson) Körber Syns.: *Protoplastenia quernea*, *Lecidea quernea*  
*cinnabarina* (Sommerf.) M. Choisy = *Ramboldia cinnabarina*  
*elabens* (Fr.) Hafellner = *Ramboldia elabens*  
*gowardiana* T. Sprib. & Hauck (Spribille & Hauck 2003) = *Ramboldia gowardiana*  
*russula* (Ach.) Hafellner = *Ramboldia russula*  
*subcinnabarina* (Tønsberg) Hafellner = *Ramboldia subcinnabarina*  
*varians* (Ach.) R. C. Harris = *Lecidea varians*

#### PYXINE Fr.

**albovirens** (G. Meyer) Aptroot  
**berteriana** (Fée) Imshaug  
**caesiopruinosa** (Nyl.) Imshaug Possibly a synonym of *P. albovirens*?  
**cocoes** (Sw.) Nyl.  
**coralligera** Malme  
**eschweileri** (Tuck.) Vainio  
**meissneriana** Nyl. (Nash et al. 1998)  
**petricola** Nyl.  
**retirugella** Nyl.  
**sorediata** (Ach.) Mont.  
**subcinerea** Stirton (Amtoft 2002)  
*chrysanthoides* Vainio = *P. subcinerea*  
*daedalea* Krog & R. Sant. = misidentification for North America



frostii Tuck. = Dirinaria frostii  
meissneri Tuck. = P. berteriana  
picta (Sw.) Tuck. = Dirinaria picta  
pringlei Imshaug = P. petricola

**RACIBORSKIOMYCES** Siemaszko (Diederich 2003)

\***peltigericola** (D. Hawksw.) M. E. Barr Syn.: Wentiomyces peltigericola (Diederich 2003)

**RACODIUM** Pers. : Fr.

**rupestre** Pers.

**RAESAENENIA** D. Hawksw., Boluda & H. Lindgr.

\***huuskonenii** (Räsänen) D. Hawksw., Boluda & H. Lindgr. Syn.: Phacopsis huuskonenii (Divakar et al. 2015)

**RAMALINA** Ach.

**ahtii** Kashiw. & T. H. Nash

**almquistii** Vainio Syn.: Fistulariella almquistii

**americana** Hale Earlier North American reports of R. fastigiata belong here.

**baltica** Lettau

**bistorta** Nyl.

**calicaris** (L.) Fr.

**canariensis** J. Steiner

**celastri** (Sprengel) Krog & Swinscow

**complanata** (Sw.) Ach.

**culbersoniorum** LaGreca (LaGreca 1999)

**dasypoga** Tuck.

**dendriscoides** Nyl.

**denticulata** Nyl.

**dilacerata** (Hoffm.) Hoffm. Syn.: Fistulariella minuscula

**farinacea** (L.) Ach.

**fastigiata** (Pers.) Ach. Earlier reports of this species from North America refer to R. americana

**fraxinea** (L.) Ach.

**geniculata** Hooker f. & Taylor Syn.: Fistulariella geniculata

**inflata** (Hooker f. & Taylor) Hooker f. & Taylor subsp. **inflata** Syn.: Fistulariella inflata

**intermedia** (Delise ex Nyl.) Nyl.

**labiosorediata** Gasparyan, Sipman & Lücking (Gasparyan et al. 2017)

**lacera** (With.) J. R. Laundon

**leptocarpha** Tuck.

**leptosperma** Nyl. (Seavey & Seavey 2014a)

**linearis** (Sw.) Ach.

**menziesii** Taylor

**montagnei** De Not.

**obtusata** (Arnold) Bitter

**paludosa** B. J. Moore

**peruviana** Ach. Syn.: Desmazieria peruviana

**petrina** Bowler & Rundel

**polymorpha** (Lilj.) Ach.

**puberulenta** Riefner & Bowler

**ramificans** F. Seavey & J. Seavey (Seavey et al. 2017)

**rigida** Pers. ex Ach.

**roesleri** (Hochst. ex Schaerer) Hue Syn.: Fistulariella roesleri

**scoparia** Vainio Syn.: Fistulariella scoparia

**sinensis** Jatta

**sonorensis** Kashiw. & T. H. Nash (Kashiwadani & Nash 2004)

**sorediantha** Nyl.

**stenospora** Müll. Arg.  
**subleptocarpha** Rundel & Bowler  
**subpellucida** Müll. Arg.  
**tenuis** (Tuck.) G. Merr.  
**thrausta** (Ach.) Nyl. Syn.: *Alectoria thrausta*  
**unifolia** J. W. Thomson  
**usnea** (L.) R. Howe  
**willeyi** R. Howe  
*canaliculata* (Fr.) Herre (Fink 1935) = *Ramalina calicaris* (Nimis & Martellos 2003)  
*cephalota* Tuck. = *Niebla cephalota*  
*ceruchis* (Ach.) De Not. = *Niebla ceruchis*  
*cochlearis* Zahlbr. = misidentification for North America  
*combeoides* Nyl. = *Niebla combeoides*  
*crinita* Tuck. = *Trichoramalina crinita*  
*cuspidata* (Ach.) Nyl. (Fink 1935) = misidentification for North America  
*duriaei* (De Not.) Bagl. = *R. lacera*  
*ecklonii* auct. = *R. celastri*  
*ecklonii* (Sprengel) G. Meyer & Flotow Not known from North America.  
*evernioides* Nyl. = *R. lacera*  
*flaccescens* Nyl. = *Niebla flaccescens*  
*homalea* Ach. = *Niebla homalea*  
*hypoprotocetrarica* W. L. Culb. = *R. farinacea*  
**pollinaria** (Westr.) Ach. [North American records apparently \*R. labiosorediata\*](#)  
*laevigata* Fr. = *R. celastri*  
*menziesii* Tuck. non Taylor = *R. leptocarpha*  
*minuscula* (Nyl.) Nyl. = *R. dilacerata*  
*pollinariella* Nyl. = *R. roesleri*  
*populina* (Hoffm.) Vainio = *R. fastigiata*  
*reagens* (B. de Lesd.) W. L. Culb. = *R. farinacea*  
*reticulata* (Nöhden) Kremp. = *R. menziesii*  
*scopulorum* (Retz.) Ach. (Fink 1935) = misidentification for North America  
*subampliata* (Nyl.) Fink = misidentification for North America  
*subfraxinea* Nyl. (Fink 1935) = misidentification for North America  
*testudinaria* Nyl. = *Niebla homalea*  
*usneoides* (Ach.) Fr. (Fink 1935) = misidentification for North America  
*yemensis* (Ach.) Nyl. = *R. celastri*

#### **RAMBOLDIA** Kantvilas & Elix

**blochiana** Lendemer & R. C. Harris (Lendemer & Harris 2011)  
**cinnabarina** (Sommerf.) Kalb, Lumbsch & Elix Syns.: *Lecidea cinnabarina*, *Protoblastenia cinnabarina* (Kalb et al. 2008)  
**elabens** (Fr.) Kantvilas & Elix (Kantvilas & Elix 2007) Syns.: *Lecidea elabens*, *L. melancheima*, *Pyrrhospora elabens*  
**gowardiana** (T. Sprib. & Hauck) Kalb, Lumbsch & Elix Syn.: *Pyrrhospora gowardiana* (Kalb et al. 2008)  
**russula** (Ach.) Kalb, Lumbsch & Elix Syns.: *Biatora russula*, *Lecidea russula*, *Protoblastenia russula*, *Pyrrhospora russula* (Kalb et al. 2008)  
**subcinnabarina** (Tønsberg) Kalb, Lumbsch & Elix Syns.: *Lecidea subcinnabarina*, *Pyrrhospora subcinnabarina* (Kalb et al. 2008)

#### **RAMONIA** Stizenb.

**ablephora** (Nyl. ex Hasse) R. C. Harris Syns.: *Lecidea ablephora*  
**absconsa** (Tuck.) Vězda  
**extensa** Lendemer, K. Knudsen & Coppins (Lendemer et al. 2009a)  
**gyalectiformis** (Zahlbr.) Vězda  
**malmei** Vězda

**microspora** Vězda Syn.: *Biatorella rappii*  
**rappii** Vězda  
**valenzueliana** (Mont.) Stizenb. Syn.: *Maronea porinoidea*  
**vermispora** Lendemer & K. Knudsen (Lendemer & Knudsen 2008a)

**REBENTISCHIA** P. Karsten

<sup>+</sup>**massalongoi** (Mont.) Sacc. (Perlmutter et al. 2017)

**RECHINGERIA** Servít = **LICHINELLA**  
*cribellifera* (Nyl.) Servít = *Lichinella cribellifera*

**RECONDITELLA** Matzer & Hafellner

**\*physconiarum** Matzer & Hafellner (Lendemer et al. 2009b)

**REFRACTOHILUM** D. Hawksw.

**\*galligenum** D. Hawksw. (Alstrup & Cole 1998)

**\*peltigerae** (Keissler) D. Hawksw.

**REIMNITZIA** Kalb

**santensis** (Tuck.) Kalb Syns.: *Leptotrema santense*, *Thelotrema santense* (Kalb 2001)

**REINKELLA** Darb. (Tehler et al. 1997)

*californica* Räsänen = *Hubbsia californica*

*parishii* Hasse = *Schizopelte parishii* (Ertz & Tehler 2011)

*subcrustacea* Räsänen = *Schizopelte parishii* (Ertz & Tehler 2011)

**RELICINA** (Hale & Kurok.) Hale

**abstrusa** (Vainio) Hale Syn.: *Parmelia abstrusa*

**eximbricata** (Gyelnik) Hale Syn.: *Parmelia eximbricata*

**REQUIENELLA** Fabre

**subcollapsa** (Ellis & Everhart) R. C. Harris (Harris 1995a)

<sup>#</sup>*seminuda* (Pers. : Fr.) Boise (Aptroot 1991) European, according to Harris (1995a)

**RHABDODISCUS** Vainio (Rivas Plata et al. 2012)

**emersus** (Kremp.) Rivas Plata, Lücking & Lumbsch Syns.: *Ocellularia emersa*, *Stegobolus emersus*

**granulosus** (Tuck.) Rivas Plata, Lücking & Lumbsch Syns.: *Ocellularia granulosa*, *Stegobolus granulatus*, *Thelotrema granulatum*

**RHABDOSPORA** (Durieu & Mont.) Mont.

*lecanorae* B. de Lesd. = *pycnidia* of *Lecanora thalli* (Hawksworth 1981, Kalb et al. 1995)

**RHAGADOSTOMA** Körber

**\*lichenicola** (De Not.) Keissler (Alstrup & Cole 1998)

**RHIZOCARPON** Ramond ex DC.

**alaxense** J. W. Thomson

**alpicola** (Anzi) Rabenh.

**amphibium** (Fr.) Th. Fr. (Hinds et al. 2002)

**anaperum** (Vainio) Vainio

**anseris** Lynge

**arctogenum** Gelting (Nash et al. 1998)

**atroflavescens** Lynge

**atrovirellum** (Nyl.) Zahlbr. (McCune et al. 2014b)

**badioatrum** (Flörke ex Sprengel) Th. Fr. Syn.: *Buellia badioatra*

**bolanderi** (Tuck.) Herre



**caesium** Fryday (Fryday 2002)  
**chioneum** (Norman) Th. Fr.  
**cinereonigrum** Vainio  
**cinereovirens** (Müll. Arg.) Vainio  
**concentricum** (Davies) Beltr.  
**cookeanum** H. Magn.  
**copelandii** (Körber) Th. Fr.  
**#dimelaenae** Timdal (Feuerer & Timdal 2004)  
**\*diploschistidina** McCune (Lumbsch et al. 2011)  
**disporum** (Nägeli ex Hepp) Müll. Arg.  
**distinctum** Th. Fr.  
**#effiguratum** (Anzi) Th. Fr.  
**eupetraeoides** (Nyl.) Blomb. & Forssell  
**eupetraeum** (Nyl.) Arnold  
**expallescens** Th. Fr.  
**ferax** H. Magn.  
**frigidum** Räsänen  
**geminatum** Körber  
**geographicum** (L.) DC. Syn.: *Buellia geographica*  
**grande** (Flörke ex Flotow) Arnold  
**hensseniae** Brodo  
**hochstetteri** (Körber) Vainio Syn.: *Buellia colludens*, *Lecidea colludens*, *Rhizocarpon colludens*  
**inarense** (Vainio) Vainio  
**infernulum** (Nyl.) Lynge (Fryday 2002)  
**intermediellum** Räsänen  
**intersitum** Arnold  
**jemtlandicum** (Malme) Malme  
**lavatum** (Fr.) Hazsl.  
**lecanorinum** Anders  
**lindsayanum** Räsänen Possibly a subspecies of *R. geographicum*  
**macrosporum** Räsänen  
**malenconianum** (Llimona & Werner) Hafellner & Mayrhofer (McCune & Ponzetti 2005)  
**microsporum** Lynge  
**norvegicum** Räsänen  
**oederi** (Weber) Körber  
**parvum** Runemark May not be distinct from *R. norvegicum*  
**petraeum** (Wulfen) A. Massal.  
**polycarpoides** Degel.  
**polycarpum** (Hepp) Th. Fr.  
**postumum** (Nyl.) Arnold  
**praebadium** (Nyl.) Zahlbr.  
**#pusillum** Runemark  
**quinonum** McCune, Timdal & Bendiksbj (McCune et al. 2016)  
**reductum** Th. Fr. (Fryday 2000)  
**#renneri** Poelt  
**riparium** Räsänen Possibly a subspecies of *R. geographicum*  
**rittokense** (Hellbom) Th. Fr.  
**rubescens** Th. Fr. (Fryday 2000)  
**saanaëense** Räsänen Syn.: *R. sublucidum*  
**\*santessonii** Timdal  
**saurinum** (W. A. Weber) Bungartz Syn.: *Buellia saurina* (Bungartz & Fryday 2004)  
**simillimum** (Anzi) Lettau  
**subgeminatum** Eitner  
**sublavatum** Fryday (McCune 2017)  
**submodestum** (Vainio) Vainio  
**subpostumum** (Nyl.) Arnold (McCune 2017)

**sulphurosum** (Tuck. ex Willey) Lendemer (Lendemer et al. 2010)  
**suomiense** Räsänen (MacDonald et al. 2011)  
**superficiale** (Schaerer) Vainio  
**superficiale** subsp. **boreale** Runemark  
**tetramerum** (Vainio) Vainio  
**timdalii** Ihlen & Fryday (Ihlen & Fryday 2002)  
**umbilicatum** (Ramond) Flagey  
**vernicoideum** Fink  
**#viridiatrum** (Wulfen) Körber  
 albineum (Tuck.) Fink = *R. obscuratum*  
 alboatrum (Hoffm.) Anzi = *Diplotomma alboatrum*  
 applanatum (Fr.) Th. Fr. (Hambleton 1910) Probable misidentification of *R. hochstetteri*  
 athalloides (Nyl.) Hasse = *Diploschistella athalloides*  
 ambiguum (Schaerer) Zahlbr. = *R. distinctum*  
 atroalbescens (Nyl.) Zahlbr. = *R. eupetraeoides*  
 chionophilum Th. Fr. = *R. alpicola*  
 chlorophaeum Hepp ex Leighton = *Diplotomma chlorophaeum*  
 colludens (Nyl.) Fryday (Mohr 1901) = *Rhizocarpon hochstetteri*  
 concentricum auct. = *R. petraeum*  
 concretum (Ach.) Elenkin = *R. geminatum*  
 crystalligenum Lynge = *R. superficiale* subsp. **boreale**  
 cumulatum J. W. Thomson = *Diplotomma venusta* (as *Buellia*, Feuerer 1991)  
 disporum auct. = *R. geminatum*  
 infernulum f. *sylvaticum* Fryday (Fryday 2002) = *R. infernulum*  
 intermedium Degel. = *R. eupetraeum*  
 interponens (Nyl.) Zahlbr. = *R. obscuratum*  
 montagnei Körber = *R. disporum*  
 obscuratum (Ach.) A. Massal. = misidentification for North America (Fryday 2000); mostly *R. lavatum*/*R. reductum*  
 occidentale Lynge = *R. superficiale*  
 oidaleum (Nyl.) Fink = *Buellia oidalea*  
 oreites (Vainio) Zahlbr. = *R. alpicola*  
 penichrum (Tuck.) G. Merr. = *Diplotomma penichrum*  
 permodestum Arnold = *R. obscuratum*  
 plicatile auct. North American = *R. rubescens* Th. Fr.?  
 plicatile (Leighton) A. L. Sm. = *Stereocaulon plicatile* (Leighton) Fryday & Coppins (Fryday & Coppins 1996) Not known from North America  
 polare Räsänen = *R. superficiale*  
 sphaerosporum Räsänen = *R. macrosporum* Räsänen  
 subconcentricum (Körber) Körber (Mohr 1901) = *R. petraeum*  
 sublucidum Räsänen = *R. saanaense* Räsänen.  
 subtile Runemark = *R. viridiatrum*

## **RHIZOPLACA** Zopf

**chrysoleuca** (Sm.) Zopf Syns.: *Lecanora chrysoleuca*, *L. rubina*  
**glaucophana** (Nyl. ex Hasse) W. A. Weber Syn.: *Lecanora glaucophana*, *Harpidium glaucophanum*  
**haydenii** (Tuck.) W. A. Weber Syn.: *Lecanora haydenii*  
**haydenii** subsp. **arbuscula** Rosentreter (McCune & Rosentreter 2007)  
**idahoensis** Rosentreter & McCune (McCune & Rosentreter 2007)  
**marginalis** (Hasse) W. A. Weber Syn.: *Lecanora marginalis*  
**melanophthalma** (DC.) Leuckert & Poelt Syn.: *Lecanora melanophthalma*  
**melanophthalma** subsp. **cerebriformis** Rosentreter & B. D. Ryan (McCune & Rosentreter 2007)  
**melanophthalma** subsp. **crispa** Rosentreter & B. D. Ryan (McCune & Rosentreter 2007)  
**nigromarginata** (H. Magn.) Leavitt, Zhao Xin & Lumbsch (Zhao et al. 2016) Syn.: *Lecanora nigromarginata*  
**novomexicana** (H. Magn.) Leavitt, Zhao Xin & Lumbsch (Zhao et al. 2016) Syns.: *Lecanora*

novomexicana, L. thomsonii  
**opiniconensis** (Brodo) Leavitt, Zhao Xin & Lumbsch (Zhao et al. 2016) Syn.: *Lecanora opiniconensis*  
**phaedrophthalma** (Poelt) Leavitt, Zhao Xin & Lumbsch (Zhao et al. 2016) Syn.: *Lecanora phaedrophthalma*  
**subdiscrepans** (Nyl.) R. Sant.  
**weberi** (Ryan) Leavitt, Zhao Xin & Lumbsch (Zhao et al. 2016) Syn.: *Lecanora weberi*  
 peltata (Ramond) Leuckert & Poelt = *Protoparmeliopsis peltata*

#### **RHYMBOCARPUS** Zopf

\***boomii** Etayo & Diederich (Diederich & Etayo 2004a)  
 \***cruciatus** (Sherwood, D. Hawksw. & Coppins) Etayo & Diederich (Diederich 2003)  
 \***neglectus** (Vainio) Diederich & Etayo Syn.: *Llimoniella neglecta* (Diederich & Etayo 2000)  
 \***stereocaulorum** (Alstrup & D. Hawksw.) Etayo & Diederich (Zhurbenko 2010)

#### **RIMELIA** Hale & Fletcher = **PARMOTREMA** (Blanco et al. 2005)

cetrata (Ach.) Hale & Fletcher = *Parmotrema cetratum*  
 commensurata (Hale) Hale & Fletcher = *Parmotrema commensuratum*  
 diffractaica (Essl.) Hale & Fletcher = *Parmotrema diffractaicum*  
 reticulata (Taylor) Hale & Fletcher = *Parmotrema reticulatum*  
 simulans (Hale) Hale & Fletcher = *Parmotrema simulans*  
 subisidiosa (Müll. Arg.) Hale & Fletcher = *Parmotrema subisidiosum*

#### **RIMELIELLA** Kurok. = **PARMOTREMA** (Blanco et al. 2005)

conferenda (Hale) Kurok. = *Parmotrema conferendum*  
 neotropica (Kurok.) Kurok. = *Parmotrema neotropicum*  
 subsumpta (Nyl.) Kurok. = *Parmotrema subsumptum*  
 subtinctoria (Zahlbr.) Kurok. = *Parmotrema subtinctorium*

#### **RIMULARIA** Nyl.

**actinostoma** Coppins & Fryday (Coppins & Fryday 2006a)  
**badioatra** (Kremp.) Hertel & Rambold  
**gibbosa** (Ach.) Coppins, Hertel & Rambold Syns.: *Mosigia gibbosa*, *Lecanora bockii*  
**limborina** Nyl. Syns.: *Lecidea limborina*, *L. trochodes*  
**paradoxa** Timdal & W. A. Weber (Timdal 2002b)  
 caeca (J. Lowe) Rambold & Printzen = *Lambiella caeca* (Resl et al. 2015)  
 furvella (Nyl. ex Mudd) Hertel & Rambold = *Lambiella furvella* (Resl et al. 2015)  
 gyrizans (Nyl.) Hertel & Rambold = *Lambiella gyrizans* (Resl et al. 2015)  
 impavida (Th. Fr.) Hertel & Rambold = *Lambiella impavida* (Resl et al. 2015)  
 #insularis (Nyl.) Rambold & Hertel = *Lambiella insularis* (Spribille et al. 2014a)  
 sphacelata (Th. Fr.) Hertel & Rambold = *Lambiella sphacelata* (Resl et al. 2015)

#### **RINODINA** (Ach.) Gray

**adironackii** H. Magn.  
**albertana** Sheard (Sheard 2010)  
**archaea** (Ach.) Arnold  
**ascociscana** (Tuck.) Tuck.  
**aspera** (Borrer) J. R. Laundon (Glew 1999)  
**athallina** H. Magn.  
**aurantiaca** Sheard (Sheard & Mayrhofer 2002)  
**austroborealis** Sheard (Sheard 2010)  
**badiexcipula** Sheard (Sheard & Mayrhofer 2002)  
**bischoffii** (Hepp) A. Massal.  
**bolanderi** H. Magn.  
**boleana** Giralt & H. Mayrhofer (Sheard et al. 2011)  
**boulderensis** Sheard (Sheard & Mayrhofer 2002)  
**brodoana** Sheard, Lendemer & E. Tripp (Lendemer et al. 2014)



**brouardii** B. de Lesd.  
**buckii** Sheard (Sheard et al. 2012)  
**bullata** Sheard & Lendemer (Sheard et al. 2012)  
**calcigena** (Th. Fr.) Lynge  
**californiensis** Sheard (Sheard & Mayrhofer 2002)  
**campestris** Sheard & C. A. Morse (Sheard et al. 2011)  
**cana** (Arnold) Arnold (Wilhelm 1998)  
**capensis** Hampe  
**castanomela** (Nyl.) Arnold  
**castanomelodes** H. Mayrhofer & Poelt  
**chrysidata** Sheard (Lendemer et al. 2012)  
**chrysomelaena** (Ach.) Tuck. (Lendemer & Sheard 2006)  
**cinereovirens** (Vainio) Vainio (Sheard et al. 2017)  
**cinnamomea** (Th. Fr.) Räsänen Syn.: *Rinodina mniaroea* var. *cinnamomea* (Spribille et al. 2010; Resl et al. 2016)  
**colobina** (Ach.) Th. Fr.  
**colobinoides** (Nyl.) Zahlbr.  
**coloradiana** H. Magn.  
**confragosa** (Ach.) Körber  
**confragosula** (Nyl.) Müll. Arg. (Sheard 2010)  
**conradii** Körber  
**destituta** (Nyl.) Zahlbr.  
**disjuncta** Sheard & Tønsberg  
**dolichospora** Malme (Sheard & Mayrhofer 2002)  
**efflorescens** Malme  
**endophragmia** I. M. Lamb  
**endospora** Sheard (Sheard & Mayrhofer 2002)  
**excrecens** Vainio  
**exigua** (Ach.) Gray  
**fimbriata** Körber (Sheard 2010)  
**flavosoralifera** Tønsberg (Tønsberg 2002)  
**freyi** H. Magn. (Sheard 2010)  
**gennarii** Bagl.  
**grandilocularis** Sheard (Sheard & Mayrhofer 2002)  
**granuligera** H. Magn.  
**griseosoralifera** Coppins (Tønsberg 1993a)  
**guzzinii** Jatta (Sheard 2004)  
**hallii** Tuck. Syn. *Lecanora exigua* f. *pruinosa*  
**herrei** H. Magn.  
**imshaugii** Sheard (Sheard 2010)  
**innata** Sheard (Sheard & Mayrhofer 2002)  
**intermedia** Bagl. (Mayrhofer et al. 2001)  
**intrusa** (Nyl.) Malme (Sheard 2010)  
**juniperina** Sheard (Sheard & Mayrhofer 2002)  
**laevigata** (Ach.) Malme  
**lecideina** H. Mayrhofer & Poelt (McCune 2017)  
**lepida** (Nyl.) Müll. Arg.  
**lobulata** H. Mayrhofer & Sheard (Sheard & Mayrhofer 2002)  
**luridata** (Körber) H. Mayrhofer, Scheid. & Sheard  
**macrospora** Sheard (Sheard & Mayrhofer 2002)  
**maculans** Müll. Arg. (Sheard 2010)  
**marysvillensis** H. Magn.  
**megistospora** Sheard & H. Mayrhofer (Sheard et al. 2011)  
**metaboliza** Vainio  
**milvina** (Wahlenb.) Th. Fr.  
**mniaroea** (Ach.) Körber

**mniaroeiza** (Nyl.) Arnold (Resl et al. 2016)  
**notabilis** (Lynge) Sheard Syn.: *Buellia notabilis* (Sheard 2010)  
**#obnascens** (Nyl.) H. Olivier (Sheard 2010)  
**ochracea** Lynge (Sheard et al. 2012)  
**oleae** Bagl. (Sheard 2010)  
**olivaceobrunnea** C. W. Dodge & Baker  
**orculata** Poelt & M. Steiner (Mayrhofer & Sheard 2007)  
**oregana** H. Magn.  
**oxydata** (A. Massal.) A. Massal.  
**pachysperma** H. Magn.  
**pacifica** Sheard (Sheard & Mayrhofer 2002)  
**pallidescens** Sheard & Tønsberg (Sheard et al. 2014)  
**papillata** H. Magn.  
**#parasitica** H. Mayrhofer & Poelt  
**perreagens** Sheard (Sheard & Mayrhofer 2002)  
**pityrea** Ropin & H. Mayrhofer (Sheard 2011)  
**poeltiana** Giralt & Obermayer (Sheard 2004)  
**polyspora** Th. Fr.  
**populicola** H. Magn.  
**pyncocarpa** H. Magn. (Sheard 2010)  
**pyrina** (Ach.) Arnold  
**rinodinoides** (Anzi) H. Mayrhofer & Scheid. (Sheard 2004)  
**riparia** Sheard (Sheard 1998)  
**roscida** (Sommerf.) Arnold  
**santae-monicae** H. Magn.  
**septentrionalis** Malme  
**sheardii** Tønsberg  
**sibirica** H. Magn. (Sheard 2010)  
**siouxiana** Sheard (Sheard 2010)  
**stictica** Sheard & Tønsberg  
**straussii** J. Steiner (Sheard 2010)  
**subminuta** H. Magn.  
**subparieta** (Nyl.) Zahlbr. (Resl. et al. 2016)  
**tephraspis** (Tuck.) Herre  
**terrestris** Tomin (Zhurbenko et al. 2006)  
**terricola** Sheard & K. Knudsen (Sheard et al. 2011)  
**trevisanii** (Hepp) Körber (Sheard 2004)  
**turfacea** (Wahlenb.) Körber  
**venostana** Buschardt & H. Mayrhofer (Freebury 2014)  
**verruciformis** Sheard (Sheard & Mayrhofer 2002)  
**wetmorei** Sheard (Sheard 2010)  
**willei** Sheard & Giralt (Sheard 1995)  
**zwackhiana** (Kremp.) Körber  
*americana* B. de Lesd. Identity not established (Sheard 2010)  
*angelica* Stizenb. = *Mobergia angelica*  
*annulata* H. Magn. = *R. subminuta* (Sheard 2010)  
*applanata* H. Magn. = *R. maculans* (Sheard 2010)  
*archaeoides* H. Magn. = *R. olivaceobrunnea*  
*arctica* H. Magn. = *R. olivaceobrunnea* (Sheard 2010)  
*aterrima* Kremp. ex Anzi = *Lichenothelia scopularia*  
*atrocinerea* (Hooker) Körber = misidentification for North America  
*biatorina* Körber = *R. oxydata*  
*biatorina sensu Fink* = *R. destituta* (Sheard 2010)  
*bolodes* Tuck. ex Fink = *Mobergia angelica*  
*cacuminum* (Th. Fr.) Malme = *Amandinea cacuminum*  
*calculiformis* W. A. Weber = *Mobergia calculiformis*

californica H. Magn. = *Dimelaena californica*  
 cinereovirens (Vainio) Vainio = *R. turfacea* (Sheard 2010)  
 constans (Nyl.) Tuck. = *Maronea constans*  
 constrictula H. Magn. = *R. straussii* (Sheard 2010)  
 corticola (Arnold) Arnold = *R. capensis*  
 dakotensis H. Magn. = *Amandinea dakotensis*  
 darrowii E. D. Rudolph ("darrovii") = *R. intermedia*  
 degeliana Coppins = *R. subparieta* (Resl. et al. 2016)  
 dirinoides Zahlbr. = *Mobergia angelica*  
 diskoensis Sheard ined. (Thomson 1997) = *R. endophragma* (Sheard 2010)  
 dissa (Stirton) H. Mayrhofer = *Hafellia dissa*, but not in North America  
 exigua var. glauca H. Magn. = *R. oleae* (Sheard 2010)  
 euryspora Zahlbr. = *R. luridata*  
 farinosa Sheard ined. (Brodo 1988) = *R. efflorescens* (Sheard 2010)  
 finkii H. Magn. = *Amandinea dakotensis*  
 flavonigella Tuck. = *R. lepida* (Sheard 2010)  
 glauca Ropin = *R. freyi* (Sheard 2010)  
 granulans Vainio sensu Thomson (1997) = *R. sibirica* (Sheard 2010)  
 halei H. Magn. = *R. subminuta* (Sheard 2010)  
 hueana Vainio = *Dimelaena oreina*  
 hyperborea H. Magn. = *R. septentrionalis* (Sheard 2010)  
 inaequalis H. Magn. = *Amandinea dakotensis*  
 \*insularis (Arnold) Hafellner (Sheard 2004) = *Endohyalina insularis*  
 interpolata (Stirton) Sheard (Thomson 1997) = misidentification for N.A. (Sheard 2010)  
 iowensis Zahlbr. = *R. cana* (Sheard 2010)  
 kentuckyensis Fink = *R. tephrae*  
 lecanoides B. de Lesd. Identity not established (Sheard 2010)  
 lecanorina (A. Massal.) A. Massal. = misidentification for N. A. (Sheard 2010)  
 lecideoides (Nyl.) Kernst. = *R. archaea* (Mayrhofer & Sheard 2007)  
 lignaria H. Magn. = *R. trevisanii*  
 lignicola Sheard (Sheard & Mayrhofer 2002) = *R. archaea* (Mayrhofer & Sheard 2007)  
 lycopodiicola B. de Lesd. Identity not established (Sheard 2010)  
 lyngei Sheard ined. (Thomson 1997) = *R. endophragma* (Sheard 2010)  
 magnussonii Sheard ined. (Brodo 1988) = *R. freyi* (Sheard 2010)  
 mamillana (Tuck.) W. A. Weber = *Buellia mamillana*  
 marysvillensis var. thujae H. Magn. = *R. excrescens* (Sheard 2010)  
 microbola Tuck. ex Fink = *Buellia microbola*  
 minutissima B. de Lesd. Identity not established (Sheard 2010)  
 milliaria Tuck. = *Amandinea milliaria*  
 mniaraea var. cinnamomea = *R. cinnamomea* (Resl et al. 2016)  
 mucronatula H. Magn. = *R. terrestris*  
 nigra Fink = *Buellia nigra*  
 nimbose (Fr.) Th. Fr. = *Phaeorrhiza nimbose*  
 novomexicana B. de Lesd. = *Dimelaena oreina*  
 occidentalis Lynge = *R. calcigena*  
 ocellata (Hoffm.) Arnold = *R. lecanorina*, but a misidentification for N. A. (Sheard 2010)  
 ochrocea Willey ex Hedrick = *R. destituta* (Sheard 2010)  
 orbata (Ach.) Vainio = *R. turfacea*  
 oreina (Ach.) A. Massal. = *Dimelaena oreina*  
 palustris Willey nom. inval. = *R. populicola* (Sheard 2010)  
 penardiana Müll. Arg. = a *Buellia* sp. (Sheard 2010)  
 pennsylvanica H. Magn. = *Amandinea dakotensis*  
 phaeocarpa (Sommerf.) Vainio = *Phaeorrhiza nimbose*  
 platyloba Willey = nom. nudum = *Mobergia calculiformis*  
 pyriniformis H. Magn. = *Amandinea dakotensis*  
 radiata Tuck. = *Dimelaena radiata*



roboris (Dufour ex Nyl.) Arnold Known only from Mexico  
 sabulosa Tuck. = *R. intermedia*  
 salina Degel. = *R. gennarii*  
 sexigua Ach. (Claassen 1912) Apparent Freudian typographical error for *R. exigua*  
 silicicola B. de Lesd. Identity not established (Sheard 2010)  
 sophodes (Ach.) A. Massal. = misidentification for North America  
 suboreina B. de Lesd. = *Dimelaena oreina*  
 subsophodes (Nyl. ex Lindsay) Zahlbr. = *R. ascociscana* (Sheard 2010)  
 succedens Nyl. (Fink 1935) = apparent misidentification for North America (Tucker & Ryan 2006)  
 subplumbea H. Magn. = *Amandinea dakotensis*  
 thomae Tuck. (Fink 1935) = *Buellia mamillana* (Bungartz et al. 2004)  
 thomsonii Sheard (Sheard 1995) = *R. santae-monicae* (Sheard 2010)  
 thujae (H. Magn.) Sheard = *R. excrescens*  
 thysanota Tuck. = *Dimelaena thysanota*  
 vegasii B. de Lesd. Identity not established (Sheard 2010)  
 verrucosa G. K. Merr. ex Sheard ined. Identity uncertain (Sheard 2010)  
 vezdae H. Mayrhofer (Harris & Ladd 2005, Lendemer & Macklin 2006) = *R. destituta* (Sheard 2010)  
 violascens H. Magn. = *R. zwackhiana*

#### ROBERGEA Desm.

pupula (Nyl.) R. C. Harris Syn.: *Belonia americana* Excluded as a non-lichen

#### ROCCELLA DC.

**decipiens** Darb.

**gracilis** Bory (Tehler 2006)

*babingtonii* Mont. = *R. decipiens*

*babingtonii* sensu auct. North American = *R. gracilis* (Tehler 2006)

*difficilis* Darb. = *R. gracilis* (Tehler 2002b, 2006)

*fimbriata* Darb. = *R. decipiens* (Tehler 2002b; Tehler et al. 2004)

*fuciformis* (L.) DC. = misidentification for North America (Tehler et al. 2004)

*fucoides* (Dickson) Vainio = *R. phycopsis* (Tehler 2002a, 2003)

*leucophaea* Tuck. = *Dendrographa leucophaea*

*montagnei* Bél. = misidentification for North America (Tehler et al. 2004)

*peruensis* Kremp. = *R. gracilis* (Tehler 2006)

*phycopsis* (Ach.) Ach. = misidentification for North America (Tehler et al. 2004)

*tinctoria* DC. = misidentification for North America (Tehler et al. 2004)

#### ROCCELLINA Darb.

*conformis* Tehler = *Dendrographa conformis* (Ertz & Tehler 2011)

*franciscana* (Zahlbr. ex Herre) Follmann = *Dendrographa franciscana* (Ertz & Tehler 2011)

#### ROCKEFELLERA Lendemer & E. Tripp

**crossophylla** Lendemer & E. Tripp (Lendemer et al. 2017) Syns.: *Parmeliella crossophylla*, *Pannaria crossophylla*, *Santessoniella crossophylla* (Jørgensen 2000c, 2005)

#### ROMJULARIA Timdal

**lurida** (Ach.) Timdal Syns.: *Mycobilimbia lurida*, *Lecidea lurida*, *L. petri*, *Biatora lurida*, *B. petri*, *Psora lurida* (Timdal 2007)

#### ROPALOSPORA A. Massal.

**chlorantha** (Tuck.) S. Ekman Syn.: *Bacidia chlorantha*

**hibernica** (P. James & Poelt) Tønsberg

**lugubris** (Sommerf.) Poelt Syns.: *Bacidia lugubris*, *Bilimbia caudata*, *Lecidea lugubris*, *L. caudata*

**viridis** (Tønsberg) Tønsberg

#### ROSELLINIELLA Vainio (Goward et al. 1996)

- \***atlantica** Matzer & Hafellner (Etayo & Breuss 1998)
- \***cladoniae** (Anzi) Matzer & Hafellner (Diederich 2003)
- \***microthelia** (Wallr.) Nik. Hoffm. & Hafellner (Kocourková 2007)
- \***nephromatis** (Crouan) Matzer & Hafellner (Goward et al. 1996)
- \***peltigericola** D. Hawksw. & Miądl. (Zhurbenko & Laursen 2003)
- \***stereocaulorum** Zhurb., Kukwa, & Oset (Zhurbenko et al. 2009)

#### **ROSELLINIOPSIS** Matzer & Hafellner

- \***gelidaria** (Mudd) Matzer Syn.: Polycoccum gelidarium
- \***tartaricola** (Nyl.) Matzer (Hafellner 2004e)
- \***tropica** Matzer & Hafellner (Lendemer & Harris 2014b)\

#### **ROSELLINULA** R. Sant. (Kalb et al. 1995)

- \***haplospora** (Nyl.) R. Sant. (Lendemer & Harris 2012)
- \***kalbii** (Hafellner) Hafellner & R. W. Rogers (Kalb et al. 1995)

#### **ROSTANIA** Trevisan (Otálora et al. 2014)

- callibotrys** (Tuck.) Otálora, P. M. Jørg. & Wedin Syn.: Collema callibotrys
- ceranisca** (Nyl.) Otálora, P. M. Jørg. & Wedin Syn.: Collema arcticum, C. ceraniscum
- occultata** (Bagl.) Otálora, P. M. Jørg. & Wedin Syn.: Collema occultatum
- quadrifida** (D. F. Stone & McCune) McCune (McCune et al. 2014b)

#### **RUFOPLACA** Arup, Söchting & Frödén (Arup et al. 2013)

- arenaria** (Pers.) Arup, Söchting & Frödén Syn.: Caloplaca arenaria
- oxfordensis** (Fink) Arup, Söchting & Frödén Syn.: Caloplaca oxfordensis

#### **RUSAVSKIA** S. Y. Kondr. & Kärnefelt (Arup et al. 2013)

- elegans** (Link) S. Y. Kondr. & Kärnefelt Syn.: Caloplaca elegans, C. splendens, Placodium elegans, Xanthoria elegans
- papillifera** (Vainio) S. Y. Kondr. & Kärnefelt Syn.: Xanthoria papillifera
- sorediata** (Vainio) S. Y. Kondr. & Kärnefelt Syn.: Caloplaca sorediata, Xanthoria sorediata

#### **SACCOMORPHA** Elenkin = **PLACYNTHIELLA**

- hyporhoda (Th. Fr.) Clauzade & Cl. Roux = Placynthiella hyporhoda
- icmalea (Ach.) Clauzade & Cl. Roux = Placynthiella icmalea
- oligotropha (J. R. Laundon) Clauzade & Cl. Roux = Placynthiella oligotropha
- uliginosa (Schrader) Hafellner = Placynthiella uliginosa

#### **SAGEDIA** Ach. (Nordin et al. 2010)

- mastrucata** (Wahlenb.) A. Nordin, Savić & Tibell Syn.: Aspicilia mastrucata, Lecanora mastrucata
- simoënsis** (Räsänen) A. Nordin, Savić & Tibell Syn.: A. simoënsis
- cestrensis (Tuck.) Tuck. (Mohr 1901) = Pseudosagedia cestrensis

#### **SAGEDIOPSIS** (Sacc.) Vainio

- \***aquatica** (Stein) Triebel (Brodo 1995)
- \***barbara** (Th. Fr.) R. Sant. & Triebel Syn.: Gongylia nadvornikii
- \***campsteriana** (Lindsay) D. Hawksw. & R. Sant. Syn.: Metasphaeria tartarina
- \***lomnitzensis** (Stein) Orange (Spribille et al. 2010)

#### **SAGIOLECHIA** A. Massal.

- protuberans** (Ach.) A. Massal.
- rhexoblephara** (Nyl.) Zahlbr.

#### **SANGUINOTREMA** Lücking

- wightii** (Taylor) Lücking Syn.: Leptotrema wightii, Myriotrema wightii, Thelotrema ravenelii, T. wightii (Lücking et al. 2015)

**SANTESSONIELLA** Henssen (Henssen 1997)

**arctophila** (Th. Fr.) Henssen var. **arctophila** Syn.: Parmeliella arctophila (Henssen 1997)

**grisea** (Hue) Henssen (Tønsberg & Henssen 1999)

**crossophylla** (Tuck.) P. M. Jørg. = **Rockefellerella crossophylla**

saximontana T. Sprib., P. M. Jørg. & M. Schultz (Spribille et al. 2007) = Leciophysma saximontana (Ekman et al. 2014)

**SARCOGRAPHA** Fée

**labyrinthica** (Ach.) Müll. Arg.

**medusulina** (Nyl.) Müll. Arg.

**tricos**a (Ach.) Müll. Arg.

intricans (Nyl.) Müll. Arg. = Phaeographis intricans

**SARCOGYNE** Flotow

**albothallina** K. Knudsen, T. B. Wheeler, Kocourk. & M. Westb. (Knudsen et al. 2016)

**arenosa** (Herre) Knudsen & S. M. Standley (Knudsen 2005b) Syn.: Acarospora arenosa

**clavus** (DC.) Kremp. Syn.: Biatorella clavus

**crustacea** K. Knudsen & Kocourk. (Knudsen & Kocourková 2010a) Syn.: Biatorella terrena

**dakotensis** H. Magn.

**desolata** (H. Magn.) K. Knudsen & Standley Syn.: Acarospora desolata (Knudsen & Standley 2007)

**hypophaea** (Nyl.) Arnold Syn.: Biatorella hypophaea (Knudsen et al. 2013b)

**integra** (B. de Lesd.) H. Magn.

**magnussonii** B. de Lesd.

**mitziae** K. Knudsen, Kocourk. & McCune (Knudsen et al. 2013a)

**novomexicana** H. Magn.

**plicata** H. Magn. (Knudsen & Kocourková 2009a, 2011) Syn.: Biatorella plicata

**reebiae** K. Knudsen (Knudsen & Standley 2007)

**regularis** Körber Syn.: Biatorella pruinosa

**similis** H. Magn.

\***sphaerospora** J. Steiner (Lendemer et al. 2009b)

**squamosa** K. Knudsen & McCune (Knudsen & McCune 2013)

athroocarpa H. Magn. = Acarospora badiofusca (Knudsen & Kocourková 2013)

\***bicolor** H. Magn. = Polysporina subfuscescens (Knudsen & Kocourková 2008a)

bolleana H. Magn. = S. arenosa (Lendemer et al. 2009c)

californica H. Magn. = S. similis (Knudsen & Lendemer 2005a)

lapponica (Ach. ex Schaerer) K. Knudsen & Kocourk. (Knudsen 2005c) N.A. reports are Polysporina subfuscescens (Knudsen & Kocourková 2008a)

oligospora H. Magn. = Polysporina gyrocarpa

privigna auct. = S. hypophaea (Knudsen et al. 2013b)

pruinosa auct. = S. regularis

simplex (Davies) Nyl. = Polysporina simplex

**SARCOPYRENIA** Nyl. (Harris 1995b)

\***bacillosa** (Nyl. ex Hasse) Nav.-Ros. & Hladun Syn.: Hassea bacillosa, Verrucaria bacillosa (Navarro-Rosinés & Hladun 2004)

\***calcare**a Lendemer & R. C. Harris (Lendemer et al. 2013)

\***cylindrospora** (P. Crouan & H. Crouan) M. B. Aguirre (Harris 1995b)

**SARCOSAGIUM** A. Massal.

**campestre** (Fr.) Poetsch & Schiedem. Syn.: Biatorella campestris

**SAREA** Fr.

<sup>+</sup>**difformis** (Fr. ) Fr.

<sup>+</sup>**resinae** (Fr.) Kuntze Syn.: Biatorella resinae



### SCHADONIA Körber

- alpina** Körber Syns.: *Lopadium alpinum*, L. *gemellum*  
**fecunda** (Th. Fr.) Vězda & Poelt Syn.: *Lopadium fecundum*

### SCHAERERIA Körber

- brunnea** Björk, T. Sprib. & T. B. Wheeler (Spribille et al. 2009)  
**cinereorufa** (Schaerer) Th. Fr. Syn.: *Lecidea cinereorufa*, L. *rugosa*  
**corticola** Muhr & Tønsberg  
**dolodes** (Nyl.) Schmull & T. Sprib. (Schmull & Spribille 2005)  
**endocyanea** (Stirton) Hertel & Gotth. Schneider Syn.: *Lecidea epiiodiza*  
**fuscocinerea** (Nyl.) Clauzade & Cl. Roux Syns.: *Aspicilia quartzitica*, *Lecidea fuscocinerea*, L. *tenebrosa*  
#**parasemella** (Nyl.) Lumbsch Syns.: *Hafellnera parasemella*, *Lecidea parasemella* (Lumbsch 1997) *tenebrosa* (Flotow) Hertel & Poelt = *S. fuscocinerea*

### SCHISMATOMMA Flotow & Körber ex A. Massal.

- glaucescens** (Nyl. ex Willey) R. C. Harris Syn.: *Arthonia glaucescens*  
**graphidioides** (Leighton) Zahlbr. (Lendemer & Harris 2016)  
**pericleum** (Ach.) Branth & Rostrup  
**rappii** (Zahlbr.) R. C. Harris Syn.: *Haematomma rappii*  
**rediunta** (Hasse) Tehler Syn.: *Dirina rediunta*  
**vernans** (Tuck.) Zahlbr.  
*abietinum* (Humb.) A. Massal. = *S. pericleum*  
*californicum* (Tuck.) Zahlbr. = *Sigridia californica*  
*cupressum* Herre = *Dendrographa franciscana*  
*decolorans* (Turner & Borrer ex Sm.) Clauz. & Vězda = *Dendrographa decolorans* (Ertz & Tehler 2011)  
*hypothallinum* (Zahlbr.) Hasse = *Lecanographa hypothallina*  
*ocellatum* (Nyl.) Zahlbr. = *Mazosia ocellata*  
*palidellum* auct. = *Opegrapha anguinella*  
*pluriloculare* (Zahlbr.) Zahlbr. (Tehler 2002c) = *Paraschismatomma pluriloculare* (Ertz & Tehler 2011)  
*ravenelii* (Tuck.) Zahlbr. = *Opegrapha ravenelii*  
*subattingens* (Nyl.) Zahlbr. = *Lecanactis epileuca*

### SCHIZOPELTE Th. Fr.

- californica** Th. Fr. Syn.: *Combea californica*  
**crustosa** Ertz & Tehler (Ertz & Tehler 2011) Syns.: *Chiodecton californicum*, *Llimonaea californica*, *Sclerophyton californicum*  
**parishii** (Hasse) Ertz & Tehler (Ertz & Tehler 2011)  
*lumbricoides* (W. A. Weber) Ertz & Tehler (Ertz & Tehler 2011) Previously regarded as a synonym of *Hubbsia californica*, but when recognized as separate, it is known only from Mexico

### SCLEROCOCCUM Fr.

- \***crassitunicatum** Zhurb., Diederich & U. Braun (Zhurbenko & Pino-Bodas 2017)  
\***montagnei** Hafellner (Diederich 2004a)  
\***simplex** D. Hawksw. (Cole & Hawksworth 2001)  
\**parmeliae* Etayo & Diederich (Kocourková & Knudsen 2009d) = *Cladophialophora parmeliae*

### SCLEROPHORA Chevall.

- amabilis** (Tibell) Tibell (Goward et al. 1996)  
**coniophaea** (Norman) J.-E. Mattsson & Middelb. (Goward et al. 1996)  
**farinacea** (Chevall.) Chevall.  
**nivea** (Hoffm.) Tibell Syns.: *Coniocybe nivea* (Hoffm.) Arnold non Tuck. & Mont., *C. pallida*  
**peronella** (Ach.) Tibell (Goward et al. 1996)

### SCLEROPHYTON Eschw.

**elegans** Eschw. Syns.: *Chiodecton inscriptum*, *Enterographa elegans* (Sparrius 2004b)  
**seriale** (Ach.) Sparrius (Seavey & Seavey 2014a)  
*californicum* (Tuck.) Hasse = *Schizopelte crustosa*  
*cerebriforme* Egea & Torrente = *Sparria cerebriformis*  
*inscriptum* (Nyl.) Müll. Arg. = *S. elegans*  
*occidentale* Herre = *Dactylospora* cf. *parasitica*, on a *Pertusaria* sp. (Sparrius 2004b)

#### **SCOLICIOSPORUM** A. Massal.

**abietinum** T. Sprib. (Spribille et al. 2009)  
**chlorococcum** (Stenh.) Vězda Syn.: *Bacidia chlorococca*  
**gallurae** Vězda (McCune 2017)  
**intrusum** (Th. Fr.) Hafellner Syn.: *Carbonea intrusa* (Hafellner 2004c)  
**pensylvanicum** R. C. Harris (Harris 2009)  
**pruinsum** (P. James) Vězda (Tønsberg 1997 [1998])  
**sarothamni** (Vainio) Vězda  
**umbrinum** (Ach.) Arnold Syn.: *Bacidia umbrina*  
**umbrinum** var. **compacta** (Körber) Vězda

#### **SCULPTOLUMINA** Marbach

**japonica** (Tuck.) Marbach Syn.: *Buellia japonica* (Giralt et al. 2009)

#### **SCUTULA** Tul.

\***cladoniicola** Alstrup & D. Hawksw. (Hansen & Alstrup 1995)  
 \***dedicata** Triebel, Wedin & Rambold (Triebel et al. 1997)  
 \***epiblastematica** (Wallr.) Rehm (Triebel et al. 1997)  
 \***heeri** (Hepp.) Trevisan (Spribille et al. 2010)  
 \***miliaris** (Wallr.) Trevisan  
 \***stereocaulorum** (Anzi) Körber  
 \***tuberculosa** (Th. Fr.) Rehm (Wedin et al. 2007)

#### **SCYTINIUM** (Ach.) Gray (Otálora et al. 2014)

**apalachense** (Tuck.) Otálora, P. M. Jørg. & Wedin Syns.: *Collema apalachense*, *Leptogium apalachense*  
**aquale** (Arnold) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium aquale*  
**aragonii** (Otálora) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium aragonii*  
**californicum** (Tuck.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium californicum*  
**callopismum** (A. Massal.) Otálora, P. M. Jørg. & Wedin Syns.: *Collema callopismum*, *C. callopismum* var. *rhyparodes*  
**cellulosum** (P. M. Jørg. & Tønsberg) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium cellulosum*  
**contortum** (Sierk) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium contortum*  
**dactylinum** (Tuck.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium dactylinum*  
**erectum** (Sierk) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium erectum*  
**fragrans** (Sm.) Ach. Syns.: *Collema fragrans*, *C. microphyllum*  
**gelatinosum** (With.) Otálora, P. M. Jørg. & Wedin Syns.: *Leptogium gelatinosum*, *L. scotinum*, *L. sinuatum*  
**imbricatum** (P. M. Jørg.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium imbricatum*  
**intermedium** (Arnold) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium intermedium*  
**juniperinum** (Tuck.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium juniperinum*  
**kauaiense** (H. Magn.) Otálora, P. M. Jørg. & Wedin Syn.: *Collema kauaiense*  
**lichenoides** (L.) Otálora, P. M. Jørg. & Wedin Syns.: *Leptogium lacerum*, *L. lichenoides*  
**palmatum** (Hudson) Gray Syns.: *Leptogium corniculatum*, *L. palmatum*  
**parculum** (Nyl.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium parculum*  
**platynum** (Tuck.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium platynum*  
**plicatile** (Ach.) Otálora, P. M. Jørg. & Wedin Syns.: *Collema plicatile*, *Leptogium microdium*, *L. plicatile*  
**polycarpum** (P. M. Jørg. & Goward) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium polycarpum*



**pulvinatum** (Hoffm.) Otálora, P. M. Jørg. & Wedin (McCune et al. 2014b)  
**rivale** (Tuck.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium rivale*, *Polychidium rivale*  
**schraderi** (Bernh.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium schraderi*  
**singulare** T. Carlberg & P. M. Jørg. (Carlberg et al. 2016)  
**siskiyouensis** (D. F. Stone & Ruchty) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium siskiyouensis*  
**subaridum** (P. M. Jørg. & Goward) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium subaridum*  
**subtile** (Schrader) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium minutissimum*, *L. perminutum*, *L. subtile*  
**tacomae** (P. M. Jørg. & Tønsberg) McCune (McCune et al. 2014b) Syn.: *Leptogium tacomae*  
**tenuissimum** (Dickson) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium lividofuscum*, *L. tenuissimum*  
**teretiusculum** (Wallr.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium intricatulum*, *L. teretiusculum*  
**turgidum** (Ach.) Otálora, P. M. Jørg. & Wedin Syn.: *Leptogium turgidum*

#### SECOLIGA Norman = GYALECTA

*carneoluteola* (Tuck.) Müll. Arg. (Fink 1935) = *Cryptolechia carneoluteola* (Tuck.) Kalb Probable misidentification for North America (Esslinger & Tucker 2009)  
*geoica* (Wahlenb. ex Ach.) Körber = *Gyalecta geoica*

#### SEGESTRIA Fr. (Harris 1995a)

**lectissima** Fr. Syn.: *Porina lectissima* (Harris 1995a)  
**leptalea** (Durieu & Mont.) R. C. Harris Syn.: *Porina leptalea* (Harris 1995a)  
**mammillosa** Th. Fr. Syn.: *Porina mammillosa* (Harris 1995a)  
**octomera** (Müll. Arg.) R. C. Harris (Harris 1995a)  
**rubentior** (Stirton) R. C. Harris (Harris 1995a)  
*nucula* Fr. (Mohr 1901) = *Porina nucula*

#### SEIROPHORA Poelt (Frödén & Lassen 2004)

**aurantiaca** (R. Br.) Frödén Syn.: *Teloschistes arcticus* (Frödén & Lassen 2004)  
**californica** (Sipman) Frödén Syn.: *Teloschistes californicus*  
**contortuplicata** (Ach.) Frödén Syn.: *Teloschistes contortuplicatus*

#### SIGRIDEA Tehler

**californica** (Tuck.) Tehler Syn.: *Dirina californica*, *D. hassei*, *Platygrapha californica*, *Schismatomma californicum*

#### SILOBIA M. Westb. & Wedin (Westberg et al. 2011a) = MYRIOSPORA Nägeli ex Uloth (Arcadia & Knudsen 2012)

*hassei* (Herre) K. Knudsen (Knudsen 2011b) = *Myriospora hassei* (Arcadia & Knudsen 2012)  
*rhagadiza* (Nyl.) M. Westb. (Westberg et al. 2011a) = *Myriospora rhagadiza* (Arcadia & Knudsen 2012)  
*scabrida* (H. Magn.) M. Westb. (Westberg et al. 2011a) = *Myriospora scabrida* (Arcadia & Knudsen 2012)  
*smaragdula* (Wahlenb.) M. Westb. & Wedin (Westberg et al. 2011a) = *Myriospora smaragdula* (Arcadia & Knudsen 2012)

#### SIPHULA Fr.

**ceratites** (Wahlenb.) Fr.  
*dactyliza* Nyl. = a *Stereocaulon* spp. (Kantvilas 2002)  
*simplex* (Taylor) Nyl. = *S. ceratites*

#### SKYTTEA Sherwood, D. Hawksw. & Coppins

\***caesii** Diederich & Etayo (Diederich & Etayo 2000)  
 \***cismonicae** Hafellner (Hafellner 2000)  
 \***dacampiae** Zhurb. (Zhurbenko 2013)  
 \***elachistophora** (Nyl.) Sherwood & D. Hawksw.



- \***gregaria** Sherwood, D. Hawks. & Coppins (Diederich & Etayo 2000)
- \***insignis** Driscoll, S. R. Clayden & R. C. Harris (Driscoll et al. 2016)
- \***lecanorae** Diederich & Etayo (Diederich & Etayo 2000)
- \***mayrhoferi** Diederich & Etayo (Diederich & Etayo 2000)
- \***nitschkei** (Körber) Sherwood, D. Hawks. & Coppins (Diederich & Etayo 2000)
- \***pertusariicola** Diederich & Etayo (Diederich & Etayo 2004b)
- \***radiatilis** (Tuck.) R. Sant., Etayo & Diederich (Diederich & Etayo 2000)
- \***richardsonii** Iturr. & D. Hawksw. (Iturriaga & Hawksworth 2004)
- \***tavaresae** R. Sant., Etayo & Diederich (Diederich & Etayo 2000)
- \***tephromelarum** Kalb & Hafellner (Diederich & Etayo 2004b)

**SKYTTELLA** D. Hawksw. & R. Sant.

- \***mulleri** (Willey) D. Hawksw. & R. Sant.

**SOLENOPSORA** A. Massal.

- candicans** (Dickson) J. Steiner
- cladonioides** B. D. Ryan & Timdal (Ryan & Timdal 2002, 2011)
- crenata** (Herre) Zahlbr.
- cyathiformis** (Szatala) van den Boom Syn.: *Lecania cyathiformis* (van den Boom & Ryan 2004b)
- holophaea** (Mont.) Samp. Syns.: *Lecanora holophaea*, *Candelariella holophaea*
- hassei** (Zahlbr.) Zahlbr. = *Lecania hassei* (Zahlbr.) W. Noble

**SOLITARIA** Arup, Söchting & Frödén (Arup et al. 2013)

- chrysophthalma** (Degel.) Arup, Söchting & Frödén Syn.: *Caloplaca chrysophthalma*

**SOLORINA** Ach.

- bispora** Nyl.
- bispora** var. **subspungiosa** (Zschacke) Frey (Zhurbenko et al. 2006)
- crocea** (L.) Ach.
- monospora** Gyelnik (McCune et al. 2014b)
- octospora** (Arnold) Arnold
- saccata** (L.) Ach.
- spongiosa** (Ach.) Anzi

**SOLORINARIA** (Vainio) Gyelnik

- despreauxii** (Mont.) Fink = *Heppia despreauxii*

**SOLORINELLA** Anzi = **GYALIDEA** (Aptroot & Lücking 2003)

- asteriscus** Anzi = *Gyalidea asteriscus* (Aptroot & Lücking 2003)

**SPARRIA** Ertz & Tehler (Ertz & Tehler 2011)

- cerebriformis** (Egea & Torrente) Ertz & Tehler Syn.: *Llimonaea cerebriformis*, *Sclerophyton cerebriforme*

**SPEERSCHNEIDERA** Trevisan

- euploca** (Tuck.) Trevisan Syn.: *Teloschistes euplocus*

**SPHAERELLOTHECIUM** Zopf

- \***abditum** Triebel
- \***araneosum** (Rehm ex Arnold) Zopf
- \***atryneae** (Arnold) Cl. Roux & Triebel (Hafellner et al. 2002)
- \***breussii** K. Knudsen, Kocourk. & Etayo (Knudsen, Kocourková & Etayo 2009)
- \***cladoniae** (Alstrup & Zhurb.) Hafellner (Knudsen & Kocourková 2010b)
- \***cladoniicola** E. S. Hansen & Alstrup (Hansen & Alstrup 1995)
- \***coniodes** (Nyl.) Cl. Roux & Diederich (Hodkinson et al. 2009)
- \***contextum** Triebel

- #**gowardii** Alstrup & M. S. Cole (Alstrup & Cole 1998)
- \***minutum** Hafellners
- \***parmeliae** Diederich & Etayo (Diederich 2003)
- \***propinquellum** (Nyl.) Cl. Roux & Triebel Syn.: Stigmidium congestum (for North America)
- \***reticulatum** (Zopf) Etayo Syn.: Echinothecium reticulatum (Kocourková et al. 2008)
- \***stereocaulorum** Zhurb. & Triebel (Zhurbenko 2010)
- \***thamnoliae** Zhurb. (Zhurbenko 2012)
- \***araneosum** var. **cladoniae** Alstrup & Zhurb. (Zhurbenko & Alstrup 2004) = *S. cladoniae*

#### SPHAERIA Haller = HYPOXYLON

**bignoniae** Schwein. = *Granulopyrenis hymnothora*

#### SPHAEROPEZIA Sacc. (Baloch et al. 2013b)

- \***bryoriae** (Diederich & Etayo) Baloch & Wedin Syn.: *Odontotrema intermedia*
- \***cucularis** (Norman) Baloch & Wedin Syn.: *Lethariicola cuculuris*
- \***intermedia** (Diederich, Zhurb. & Etayo) Baloch & Wedin Syn.: *Odontotrema intermedium*
- \***lecanorae** (Diederich & G. Marson) Baloch & Wedin Syn.: *Odontotrema lecanorae*
- \***melaneliae** (Diederich & Zhurb.) Baloch, Gilenstam & Wedin Syn.: *Odontotrema melaneliae*
- \***mycoblasti** Diederich, Baloch & Wedin (Baloch et al. 2013b)
- \***ochrolechiae** (Diederich, Holien & Zhurb.) Baloch & Wedin Syn.: *Odontotrema ochrolechiae*
- \***santessonii** (Zhurb., Etayo & Diederich) Baloch & Wedin Syn.: *Odontotrema santessonii*
- \***sipei** (Grumann) Baloch & Wedin Syn.: *Lethariicola sipei*, *Odontotrema sipei*
- \***thamnoliae** (Zhurb., Diederich & Etayo) Baloch & Wedin Syn.: *Odontotrema thamnoliae*

#### SPHAEROPHORUS Pers.

- fragilis** (L.) Pers.
- globosus** (Hudson) Vainio
- tuckermanii** Räsänen (Wedin et al. 2009)
- venerabilis** Wedin, Högnabba & Goward (Wedin et al. 2009)
- globiferus** (L.) D.C. var. **gracilis** Müll. Arg. = *S. tuckermanii* (Wedin et al. 2009)
- globosus** var. **gracilis** auct. = *S. tuckermanii*
- melanocarpus** (Sw.) DC. = *Bunodophoron melanocarpus*

#### SPHAERULINA Sacc.

- \***dolichotera** (Nyl.) Vouax (Esslinger & Egan 1995)

#### SPHINCTRINA Fr.

- \***anglica** Nyl. Syn.: *Mycocalicium microcephalum*, *Calicium microcephalum*
- \***benmargana** Selva (Selva 2004)
- \***leucopoda** Nyl.
- \***pallidella** (Willey) Selva (Selva 2004)
- \***tubaeformis** A. Massal.
- \***turbinata** (Pers. : Fr.) De Not. Syn.: *Calicium turbinatum*
- \***gelasinata** (With.) Zahlbr. (Fink 1935) = *S. turbinata* (Santesson et al. 2004)
- \***microcephala** (Sm.) Körber = *S. anglica*
- \***microcephala** Nyl. = *S. tubaeformis*

#### SPHINCTRINELLA Nádv. = MYCOCALICIUM

**calicioides** Nádv. = *Mycocalicium calicioides*

#### SPILONEMA Bornet

- americanum** (Henssen & Tønsberg) T.Sprib., Muggia & Tønsberg Syn.: *Spilonemella americana* (Spribille et al. 2014b)
- paradoxum** Bornet
- revertens** Nyl.

dendroides Henssen = Erinacellus dendroides (Henssen) T. Sprib., Muggia & Tønsberg (Spribille et al. 2014b)

SPIILONEMELLA Henssen & Tønsberg (Henssen & Tønsberg 2000)  
americana Henssen & Tønsberg = Sylonema americanum (Spribille et al. 2014b)

SPIROGRAPHA Zahlbr.  
\*fusisporella (Nyl.) Zahlbr. (Alstrup & Cole 1998)

SPORASTATIA A. Massal.  
polyspora (Nyl.) Grumann  
testudinea (Ach.) A. Massal. Syn.: Biatorella kulshanensis, B. testudinea  
cinerea (Schaerer) Körber = S. polyspora

SPORODICTYON A. Massal.  
cruentum (Körber) Körber Syn.: Polyblastia cruenta (Fryday 2006, Savić & Tibell 2009, Spribille et al. 2010)  
minutum Savić & Tibell (McCune et al. 2014b)  
schaererianum A. Massal. (Hafellner 2010)  
terrestre (Th. Fr.) Savić & Tibell Syn.: Polyblastia terrestris (Savić & Tibell 2009), Verrucaria obtenta (Dillman et al. 2012)

SPORODOPHORON Frisch, Y. Ohmura, Ertz & G. Thor (Frisch et al. 2015)  
americanum (Lendemer, E. Tripp & R. C. Harris) Ertz & Frisch (Frisch et al. 2015)

SPOROPodium Mont.  
marginatum Lücking & Lumbsch (Lücking et al. 2011b)  
phyllocharis (Mont.) A. Massal.

SPOROSTIGMA Grube  
melasporum (Tuck.) Grube Syn. Arthonia melaspora (Grube 2001)

SQUAMARINA Poelt  
cartilaginea (With.) P. James  
lentigera (Weber) Poelt Syn.: Lecanora lentigera  
crassa (Hudson) Poelt = S. cartilaginea  
degelii Poelt = Lecanora neodegelii

SQUAMULEA Arup, Söchting & Frödén (Arup et al. 2013)  
galactophylla (Tuck.) Arup, Söchting & Frödén Syn.: Caloplaca galactophylla, Placodium galactophylla  
parviloba (Wetmore) Arup, Söchting & Frödén Syn.: Caloplaca parviloba  
squamosa (B. de Lesd.) Arup, Söchting & Frödén Syn.: Caloplaca squamosa  
subsoluta (Nyl.) Arup, Söchting & Frödén Syn.: Caloplaca irubescens, C. modesta, C. subsoluta

STAUROLEMMA Körber  
carolinianum P. M. Jørg. (Jørgensen 2004)

STAUROTHELE Norman  
arctica Lynge  
areolata (Ach.) Lettau  
bacilligera (Arnold) Arnold (Lendemer 2008)  
clonimoides (Bagl. & Carestia) J. Steiner  
discedens (Nyl.) Zahlbr.  
drummondii (Tuck.) Tuck. Syn: Endocarpon drummondii, E. wilmsoides  
effigurata J. W. Thomson



**elenkinii** Oxner  
**fissa** (Taylor) Zwackh  
**frustulenta** Vainio (McCune et al. 2014b)  
**guestphalica** (Lahm ex Körber) Arnold (Lendemer 2008)  
**lecideoides** B. de Lesd.  
**monicae** (Zahlbr.) Wetmore Syn.: Endocarpon monicae  
**orispruinosa** J. W. Thomson  
**polygonia** B. de Lesd.  
**rufa** (A. Massal.) Zschacke (McCune 2017)  
**rugosa** J. W. Thomson  
**rupifraga** (A. Massal.) Arnold Syn. : Verrucaria terebrata  
**verruculosa** J. W. Thomson  
 ambrosiana (A. Massal.) Zschacke = S. drummondii for North American records  
 circinata Tuck. = S. fissa  
 catalepta auct. N. Am. = mostly S. monicae  
 clopima (Wahlenb.) Th. Fr. [epithet to be proposed for rejection under I.C.B.N. Art.69 (Thomson 1991)] = S. drummondii  
 diffractella (Nyl.) Tuck. = [Willeya diffractella](#)  
 fuscocuprea (Nyl.) Zschacke = S. drummondii  
 glacialis Herre = S. fissa  
 hazslinskyi (Körber) J. Steiner = S. fissa  
 hymenogonia (Nyl.) Th. Fr. = S. discedens for North American records  
 perradiata Lynge = S. drummondii  
 sessilis H. Magn. = S. elenkinii  
 succedens (Rehm) Arnold = S. drummondii for North American record  
 tenuissima Degel. = Endocarpon tenuissimum  
 umbrina (Wahlenb.) Hellb. = S. fissa

#### **STEGOBOLOUS Mont.**

**auberianus** (Mont.) A. Frisch & Kalb Syns.: Leptotrema auberianum, Ocellularia auberiana (Frisch & Kalb 2006)  
 emersus (Kremp.) Frisch & Kalb = Rhabdodiscus emersus (Rivas Plata et al. 2012)  
 granulatus (Tuck.) A. Frisch = Rhabdodiscus granulatus (Rivas Plata et al. 2012)

#### **STEINEROPSIS T. Sprib. & Muggia (Spribille et al. 2010)**

**alaskana** T. Sprib. & Muggia (Spribille et al. 2010)

#### **STEINIA Körber**

**geophana** (Nyl.) Stein Syns.: Lecidea geophana, Biatorella geophana

#### **STENOCYBE (Nyl.) Körber**

<sup>+</sup>**clavata** Tibell  
<sup>+</sup>**flexuosa** Selva & Tibell (Selva & Tibell 1999)  
<sup>+</sup>**fragmenta** E. B. Peterson & Rikkinen (Peterson & Rikkinen 1998)  
<sup>+</sup>**major** Nyl. ex Körber  
<sup>+</sup>**pullatula** (Ach.) Stein  
<sup>+</sup>byssacea (Fr.) Körber = S. pullatula  
<sup>+</sup>euspora (Nyl.) Anzi = (?) S. major  
<sup>+</sup>minutissima (G. Merr.) Zahlbr. = Phaeocalicium minutissimum  
<sup>+</sup>tremulicola Norrlin ex Nyl. = Phaeocalicium tremulicola

#### **STEREOCAULON Hoffm.**

**alpinum** Laurer ex Funck  
**apocalypticum** Nyl  
**arcticum** Lynge  
**arenarium** (Savicz) I. M. Lamb

**botryosum** Ach.  
**capitellatum** H. Magn.  
**condensatum** Hoffm.  
**coniophyllum** I. M. Lamb  
 [Siphula dactyliza Nyl.] (Kantvilas 2004)  
**dactylophyllum** Flörke  
**dactylophyllum** var. **occidentale** (H. Magn.) I. M. Lamb  
**depreaultii** Delise ex Nyl.  
**depressum** (Frey) I. M. Lamb (Zhurbenko et al 2006)  
**glareosum** (Savicz) H. Magn.  
**glaucescens** Tuck.  
**glaucescens** var. **caespitosulum** (Nyl.) I. M. Lamb  
**grande** (H. Magn.) H. Magn.  
**groenlandicum** (E. Dahl) I. M. Lamb  
**incrustatum** Flörke  
**intermedium** (Savicz) H. Magn.  
**klondikense** T. Sprib. (Spribille et al. 2010)  
**leucophaeopsis** (Nyl.) P. James & Purvis (Fryday 2010)  
**leprocephalum** Vainio  
**microcarpum** Müll. Arg.  
**myriocarpum** Th. Fr.  
**nanodes** Tuck.  
**nivale** (Follmann) Fryday Syn.: Bacidia nivalis (Fryday & Glew 2003)  
**octomerum** Müll. Arg.  
**paschale** (L.) Hoffm.  
**pileatum** Ach.  
**plicatile** (Leighton) Fryday & Coppins (Fryday 2006)  
**rivulorum** H. Magn.  
**sasakii** Zahlbr. var. **simplex** (Riddle) I. M. Lamb  
**sasakii** var. **tomentosoides** I. M. Lamb  
**saviczii** Du Rietz  
**saxatile** H. Magn.  
**spathuliferum** Vainio  
**sterile** (Savicz) I. M. Lamb ex Krog  
**subcoralloides** (Nyl.) Nyl.  
**subdenudatum** Hav. (Spribille et al. 2010)  
**symphycheilum** I. M. Lamb  
**taeniarum** (H. Magn.) Kivistö (Kivistö 1998)  
**tennesseense** H. Magn. ex Degel.  
**tennesseense** H. Magn. ex Degel. var. **nigrofastigiatum** I. M. Lamb  
**tomentosum** Fr.  
**tornense** (H. Magn.) P. James & Purvis (McCune 2017)  
**vesuvianum** Pers.  
 albicans Th. Fr. = Lepraria albicans  
 arbuscula Nyl. = Lepraria arbuscula  
 coralloides Fr. = S. dactylophyllum  
 denudatum Flörke = S. vesuvianum  
 evolutoides (H. Magn.) Frey = S. saxatile  
 microscopicum (Vill.) Frey = Leprocaulon quisquiliare, but N.A. records are L. americanum  
 pseudoarbuscula Asahina = Lepraria subalbicans for North American records  
 quisquiliare (Leers) Hoffm. = Leprocaulon quisquiliare, but N.A. records are L. americanum  
 ramulosum Raeuschel = not in North America north of Mexico  
 subalbicans I. M. Lamb = Lepraria subalbicans  
 uliginosum I. M. Lamb Known from Greenland but not from the United States or Canada.  
 wrightii Tuck. = not in North America

## **STICTA** (Schreber) Ach.

**arctica** Degel.

**beauvoisii** Delise

**canariensis** (Bory) Bory ex Delise

**carolinensis** T. McDonald (McDonald et al. 2003)

**deyana** Lendemer & Goffinet (Lendemer & Goffinet 2015)

**fragilinata** T. McDonald (McDonald et al. 2003)

**fuliginosa** (Hoffm.) Ach.

**leucoblephara** (Müll. Arg.) D. J. Galloway (Galloway & Thomas 2004)

**limbata** (Sm.) Ach.

**sylvatica** (Hudson) Ach.

**xanthotropa** (Kremp.) D. J. Galloway (Galloway & Thomas 2004)

**amplissima** (Scop.) Rabenh. (Fink 1935) = *Lobaria amplissima*

**anthraspis** Ach. = *Lobaria anthraspis*

**aurata** Ach. = *Crocodia aurata*

**crocata** (L.) Ach. = *Pseudocyphellaria crocata*, but misidentifications for North America

**drummondii** Taylor = *Nephroma resupinatum*

**erosa** (Eschw.) Tuck. = *Lobaria ravenelii*

**glomulifera** (Lightf.) Delise = *Lobaria amplissima*

**hallii** Tuck. = *Lobaria hallii*

**herbacea** (Hudson) Ach. = misidentification for North America

**laciniata** Ach. = misidentification for North America

**linita** Ach. = *Lobaria linita*

**oregana** Tuck. = *Lobaria oregano*

**oroborealis** Goward & Tønsberg (Tønsberg & Goward 2001) = *Dendriscosticta oroborealis* (Moncada et al. 2013)

**pulmonaria** (L.) Biroli = *Lobaria pulmonaria*

**quercizans** (Michaux) Ach. (Fink 1935) = *Lobaria quercizans*

**verrucosa** (Hudson) Fink = *Lobaria scrobiculata*

**weigeli** (Ach.) Vainio = misidentification for North America

**wrightii** Tuck. = *Dendriscosticta wrightii* (Moncada et al. 2013)

## **STICTIS** Pers.: Fr.

**urceolatum** (Ach.) Gilenstam Syn.: *Conotrema urceolatum* (Wedin et al. 2005)

## **STIGMATOCHROMA** Marbach

**gerontoides** (Stirton) Marbach (Seavey et al. 2017)

## **STIGMIDIUM** Trevisan

\***beringicum** Zhurb. & Triebel (Zhurbenko 2010)

\***californicum** K. Knudsen & Kocourk. (Knudsen & Kocourková 2010f)

\***cerinae** Cl. Roux & Triebel (Cole & D. Hawksworth 2001)

\***congestum** (Körber) Triebel (Driscoll et al. 2016) An earlier N.A. report was based on *Sphaerellothecium propinquellum* (Esslinger & Egan 1995)

\***conspurcans** (Th. Fr.) Triebel & R. Sant. (Spribille et al. 2010)

\***croceae** (Arnold) Cl. Roux & Triebel (Zhurbenko & Daniëls 2003)

\***ephebes** (Henssen) D. Hawksw. Syn.: *Pharcidia ephebes* (Henssen) D. Hawksw.

\***epistigmellum** (Nyl. ex Vouaux) Kocourk. & K. Knudsen (Kocourková & Knudsen 2009c)

\***epixanthum** Hafellner (Hafellner et al. 2002)

\***frigidum** (Sacc.) Alstrup & D. Hawksw.

\***fuscatae** (Arnold) R. Sant.

\***glebarum** (Arnold) Hafellner (Etayo & Breuss 1998)

\***gyrophorarum** (Arnold) D. Hawksw. (Hafellner et al. 2002)

\***hesperium** Kocourk., K. Knudsen, & Diederich (Kocourková & Knudsen 2009b)

\***lendemerii** Kocourk. & K. Knudsen (Kocourková et al. 2012, Kocourková & Knudsen 2012)

\***marinum** (Deakin) Swinscow



- \***microcarpum** Alstrup & J. C. David (Zhurbenko 2009b)
- \***mitchelii** Cl. Roux & Bricaud (Zhurbenko 2013)
- \***mycobilimbiae** Cl. Roux, Triebel & Etayo (Diederich 2003)
- \*[**Pharcidia parva** Henssen]
- \***peltideae** (Vainio) R. Sant. (Alstrup & Cole 1998)
- \***pseudopeltideae** Cl. Roux & Triebel (Diederich 2003; Zhurbenko & Laursen 2003)
- \***psorae** (Anzi) Hafellner
- \***pumilum** (Lettau) Matzer & Hafellner (Cole & D. Hawksworth 2001)
- \***ramalinae** (Müll. Arg.) Etayo & Diederich (Kocourková et al. 2010)
- \***schaereri** (A. Massal.) Trevisan (Reinstated for N.Am. by Henssen 1995)
- \***solorinarium** (Vainio) D. Hawksw. (Zhurbenko 2009a)
- \***squamariae** (B. de Lesd.) Cl. Roux & Triebel
- \***stygnospilum** (Minks ) R. Sant. (McCune et al. 2014b)
- \***tabacinae** (Arnold) Triebel
- \***xanthoparmeliarum** Hafellner (Kocourková & Knudsen 2008)
- \***atryneae** (Arnold) Hafellner = *Sphaerellothecium atryneae*, but North American specimens are *Stigmidium squamariae*
- \***schaereri** (A. Massal.) Trevisan = misidentification for North America

#### STIRTONIA A. L. Sm.

- [**Arthonia alba** Müll. Arg.]
- alba** Groenh. ex Makhija & Patw. ([Seaver et al. 2017](#))
- byssoides** F. Seavey & J. Seavey (Seavey & Seavey 2015)
- coei** F. Seavey & J. Seavey (Seavey & Seavey 2015)
- divaricata** F. Seavey & J. Seavey ([Seavey et al. 2017](#))
- dubia** A. L. Smith (Lücking et al. 2011b)
- latispora** F. Seavey & J. Seavey (Seavey & Seavey 2015)
- macrocarpa** Makhija & Patw. (Lücking et al. 2011b)

#### STRANGOSPORA Körber

- deplanata** (Almq.) Clauz. & Cl. Roux (Knudsen 2007c)
- microhaema** (Norman) R. A. Anderson Syn.: *Biatorella microhaema*
- moriformis** (Ach.) Stein Syn.: *Biatorella moriformis*
- pinicola** (A. Massal.) Körber
- ochrophora** (Nyl.) R. A. Anderson = *Piccolia ochrophora*

#### STRIGULA Fr.

- americana** R. C. Harris Syn.: *Arthopyrenia tenuis*
- bermudana** (Nyl.) R. C. Harris (Harris 1995a)
- connivens** R. C. Harris (Harris 1995a)
- griseonitens** R. C. Harris (Harris 1995a)
- hypothallina** R. C. Harris (Harris 1995a)
- jamesii** (Swinscow) R. C. Harris Syn.: *Arthopyrenia affinis* auct.
- laceribracae** R. C. Harris (Harris 1995a)
- nitidula** Mont.
- orbicularis** Fr. (Lücking et al. 2011b)
- phaea** (Ach.) R. C. Harris
- schizospora** R. Sant. (Lücking et al. 2011b)
- smaragdula** Fr. : Fr. (Harris 1995a)
- stigmatella** (Ach.) R. C. Harris Syn.: *Arthopyrenia faginea*, *Porina cinerea*, *P. faginea*
- subelegans** Vainio (Harris 1995a)
- submuriformis** (R. C. Harris) R. C. Harris Syn.: *Arthopyrenia submuriformis*
- viridiseda** (Nyl.) R. C. Harris Syn.: *Porina viridiseda*
- wilsonii** (Riddle) R. C. Harris
- affinis* (A. Massal.) R. C. Harris = *S. jamesii* for North American records
- complanata** (Fée) Mont. = *S. orbicularis* (Lücking 2008)

*elegans* (Fée) Müll. Arg. = *S. smaragdula* (Harris 1995a)  
*sychnogonioides* (Nitschke) R. C. Harris = *Geisleria sychnogonioides*

#### **STROMATELLA** Henssen

**bermudana** (Riddle) Henssen (Schultz 2002e)

#### **SULCARIA** Bystrek

**badia** Brodo & D. Hawksw.

**isidiifera** Brodo

**spiralifera** (Brodo & D. Hawksw.) Myllys, Velmala & Goward (Myllys et al. 2014) Syn.: *Bryoria pseudocapillaris*, *B. spiralifera*

#### **SULCOPYRENULA** H. Harada

**canellae-albae** (Fée) H. Harada Syn.: *Anthracothecium canellae-albae* (Harada 1999)

**staurospora** (Tuck.) H. Harada (Harada 1999)

**subglobosa** (Riddle) Aptroot (Aptroot 2012)

#### **SYNALISSA** Fr.

**matogrossensis** (Malme) Henssen (Schultz 2002f)

**ramulosa** (Hoffm.) Fr. Syn.: *Omphalaria symphorea* (McCune et al. 2014b)

*melambola* Tuck. = *Metamelanea melambola*

*symphorea* (Ach.) Nyl. = *S. ramulosa* (McCune et al. 2014b)

*subnigra* (B. de Lesd.) Henssen = *Peccania subnigra*

*texana* Tuck. = *Peccania texana*

#### **SYNCESIA** Taylor (Tehler 1996)

**byssina** (Vainio) Tehler

**depressa** (Fée) Tehler

**graphica** (Fr.) Tehler Syn.: *Chiodecton perplexum*

**psaroleuca** (Nyl.) Tehler

#### **SYNECHOBLASTUS** Trevisan = **COLLEMA**

*aggregatus* ("Ach.") Th. Fr. = *Gabura fasciculare*

*coccophorus* (Tuck.) Fink (Fink 1935) = *Enchylium coccophorum*

*cyrtaspis* (Tuck.) Fink (Fink 1935) = *Enchylium conglomeratum* (var. *crassiusculum*, Degelius 1974)

*fascicularis* (L.) A. L. Smith (Fink 1935) = *Gabura fasciculare*

*laciniatus* (Nyl.) Fink (Fink 1935) = *Collema texanum* (Degelius 1974)

*leptaleus* (Tuck.) Fink (Fink 1935) = *Collema leptaleum*

*leucocarpus* (Hooker f. & Taylor) Müll. Arg. (Fink 1935) = *Collema leucocarpum* Hooker f. & Taylor, misidentification for North America (Degelius 1974)

*microptychius* (Tuck.) Fink (Fink 1935) = *Collema leptaleum* (Degelius 1974)

*nigrescens* (Hudson) Trevisan (Fink 1935) = *Collema nigrescens*

*ohioensis* Fink (Fink 1935) = *Enchylium conglomeratum* (Degelius 1974)

*ryssoleus* (Tuck.) Fink (Fink 1935) = *Collema ryssoleum*

*polycarpus* (Hoffm.) Dalla Torre & Sarnth. = *Enchylium polycarpon*

*pyncocarpus* Nyl. = *Enchylium conglomeratum* (var. *crassiusculum*, Degelius 1974)

*rupestris* (Sw.) Trevisan = *Collema flaccidum*

*texanus* (Tuck.) Müll. Arg. = *Collema texanum*

*wyomingensis* Fink = *Enchylium polycarpon*

#### **SYZYGOSPORA** G. W. Martin (Diederich 1996)

\***bachmannii** Diederich & M. S. Christ. (Diederich 1996)

\***physciacearum** Diederich (Diederich 1996)

#### **SZCZAWINSKIA** A. Funk

**leucopoda** Holien & Tønsberg (Holien & Tønsberg 2002)  
**tsugae** A. Funk Syn.: *Micarea clavopycnidiata* (Aptroot et al. 1997)

**TAENIOLELLA** S. Hughes

\***beschiana** Diederich (Zhurbenko & Alstrup 2004)  
\***caespitosa** M. S. Cole & D. Hawksw. (Cole & Hawksworth 2001)  
\***christiansenii** Alstrup & D. Hawksw. (Zhurbenko & Daniëls 2003)  
\***delicata** M. S. Christ. & D. Hawksw. (Diederich 2003)  
\***pertusariicola** D. Hawksw. & H. Mayrhofer (McMullin et al. 2017)  
\***phaeophysciae** D. Hawksw. (Diederich 2003)  
\***rolfii** Diederich & Zhurb. (Diederich & Zhurbenko 2001)  
\***serusiauxii** Diederich (Diederich 2003)  
\**laevistipitata* M. S. Cole & D. Hawksw. (Cole & Hawksworth 2001) = *Corynespora laevistipitata*

**TALPAPELLIS** Alstrup & M. S. Cole

\***peltigerae** Alstrup & M. S. Cole (Alstrup & Cole 1998)

**TAPELLARIA** Müll. Arg.

**albomarginata** Lücking (Lücking et al. 2011b)  
**epiphylla** (Müll. Arg.) R. Sant. Syn.: *Lopadium phyllocharis*  
**floridensis** Common & Lücking (Lücking et al. 2011b)  
**granulosa** Lücking & Rivas Plata (Lücking et al. 2011b)  
**malmei** R. Sant. (Lücking et al. 2011b)  
**nana** (Fée) R. Sant.  
*bilimbioides* R. Sant. Report based on *T. albomarginata* (Lücking et al. 2011b)

**TELOSCHISTES** Norman

**chrysophthalmus** (L.) Th. Fr.  
**exilis** (Michaux) Vainio  
**flavicans** (Sw.) Norman  
*arcticus* Zahlbr. = *Seiophora aurantiaca*  
*californicus* Sipman = *Seiophora californica*  
*candelarius* (L.) Fink = *Polycauliona candelaria*  
*concolor* (Dickson) Tuck. = *Candelaria concolor*  
*contortuplicatus* (Ach.) Clauzade & Rondon = *Seiophora contortuplicata*  
*euplocus* (Tuck.) Zahlbr. = *Speerschneidera euploca*  
*lychneus* (Ach.) Tuck. = *Polycauliona candelaria*  
*parietinus* (L.) Norman = *Xanthoria parietina*  
*polycarpus* (Hoffm.) Tuck. = *Polycauliona polycarpa*  
*ramulosus* Tuck. = *Xanthoria ramulosa*  
*villosus* auct. non (Ach.) Norman = *T. californicus* for North American records

**TEPHROMELA** M. Choisy

**atra** (Hudson) Hafellner Syn.: *Lecanora atra*  
\***cerasina** (Müll. Arg.) Rambold & Triebel (Nash et al. 2004b)  
**nashii** Kalb (Nash et al. 2004b)  
**pacifica** Björk & Muggia (Cestaro et al. 2016)  
*aglaea* (Sommerf.) Hertel & Rambold = *Calvitimela aglaea*  
“*aglaeida*” Nyl. = *Calvitimela aglaea*  
*armeniaca* (DC.) Hertel & Rambold = *Calvitimela armeniaca*  
*testaceoatra* (Vainio) Hertel & Rambold = *Calvitimela testaceoatra*

**TETRAMELAS** Norman

**chloroleucus** (Körber) A. Nordin Syn.: *Buellia chloroleuca* (Nordin 2004)  
**insignis** (Nägeli ex Hepp) Kalb Syn.: *Buellia insignis* (Nordin 2004)  
**papillatus** (Sommerf.) Kalb Syn.: *Buellia papillata* (Kalb 2004)



**\*pulverulentus** (Anzi) A. Nordin & Tibell Syns.: *Buellia pulverulenta*, *Diplotomma pulverulentum* (Nordin & Tibell 2005)  
**terricolus** (A. Nordin) Kalb (Kalb 2004)  
**triphragmioides** (Anzi) A. Nordin & Tibell Syn.: *Buellia triphragmioides* (Nordin & Tibell 2005)  
*geophilus* (Flörke ex Sommerf.) Norman North American records reported to be *T. terricolus* (Nordin 1999, McCune et al. 2014b)

**TEUVOA** Sohrabi & S. Leavitt (Sohrabi et al. 2013a)  
**junipericola** Sohrabi & S. Leavitt (Sohrabi et al. 2013a)

**TEXOSPORIUM** Nádv. ex Tibell & Hofsten  
**sancti-jacobi** (Tuck.) Nádv. Syn.: *Cyphelium sancti-jacobi*

**THALLOLOMA** Trevisan  
**anguiniforme** (Vainio) Staiger (Lendemer et al. 2009b)  
**anguinum** (Mont.) Trevisan Syn.: *Graphina anguina* (Staiger 2002, Tripp et al. 2010), *Graphis inustula*  
**cinnabarinum** (Fée) Staiger (Kocourková et al. 2010)  
**hypoleptum** (Nyl.) Staiger (Lendemer & Knudsen 2008b)

**THAMNOGALLA** D. Hawksw.  
**\* crombiei** (Mudd) D. Hawksw.  
**THAMNOLIA** Ach. ex Schaerer  
**subuliformis** (Ehrh.) W. L. Culb.  
**vermicularis** (Sw.) Ach. ex Schaerer  
*subvermicularis* Asahina = *T. subuliformis*

**THECARIA** Fée  
**quassiicola** Fée Syn.: *Phaeographina quassiicola* (Staiger 2002)

**THELENELLA** Nyl.  
**brasiliensis** (Müll. Arg.) Vainio (Harris 1995a)  
**calicola** C. A. Morse (Morse 2016)  
**harrisii** H. Mayrhofer  
**hassei** (Zahlbr.) H. Mayrhofer Syns.: *Microglaena hassei*, *M. sychnogonoides*  
**humilis** R. C. Harris (Harris 1995a)  
**inductula** (Nyl.) H. Mayrhofer Syns.: *Microglaena inductula*, *Polyblastiopsis inductula*  
**modesta** (Nyl.) Nyl. Syn.: *Microglaena subcorallina*  
**nubifera** C. A. Morse (Morse 2016)  
**pertusariella** (Nyl.) Vainio (Harris 1995a)  
**rappii** R. C. Harris (Harris 1995a)  
**sastreana** R. C. Harris (Harris 1995a)  
**sordidula** (Th. Fr.) H. Mayrhofer Syn.: *Microglaena sordidula*  
**sychnogonioides** (Zahlbr.) R. C. Harris (Harris 1995a)  
**weberi** H. Mayrhofer  
*americana* (Knudsen & Lendemer) Aptroot (Aptroot & Schumm 2012) = *Trimmatothelopsis americana* (Knudsen & Lendemer 2016)  
*cinerascens* (Vainio) R. C. Harris (Harris 1995a) = *Aspidothelium cinerascens* (Nelsen et al. 2017)  
*fugiens* (Müll. Arg.) R. C. Harris (Harris 1995a) = *Aspidothelium fugiens* (Nelsen et al. 2017)  
*geminipara* (Malme) R. C. Harris (Harris 1995a) = *Aspidothelium geminiparum* (Nelsen et al. 2017)  
*luridella* (Nyl.) H. Mayrhofer (Harris 1995a) North American records are *T. nubifera* (Morse 2016)  
*muscorum* (Fr.) Vainio var. *muscorum* (Lendemer & Harris 2004) = *Chromatochlamys muscorum* (Nelsen et al. 2017)  
*muscorum* var. *octospora* (Nyl.) Coppins & Fryday (Fryday & Coppins 2004) = *Chromatochlamys muscorum* var. *octospora* (Nelsen et al. 2017)

**THELIDIELLA** Fink ex J. Hedrick

blastenicola Fink = a non-lichenized fungus

**THELIDIUM** A. Massal.

**absconditum** (Hepp) Rabenh.

**aeneovinosum** (Anzi) Arnold

**areolatum** J. W. Thomson

**decipiens** (Nyl.) Kremp.

**fontigenum** A. Massal. Syns.: *Thelidium microbolum*, *Verrucaria microbola*

**incavatum** Nyl. ex Mudd

**microsporum** Lynge

**minimum** (A. Massal. ex Körber) Arnold

**minutulum** Körber

**olivaceum** (Fr.) Körber

**papulare** (Fr.) Arnold Syn.: *Verrucaria sprucei*

**parvulum** Arnold

**pyrenophorum** (Ach.) Mudd

**transsylvanicum** Zschacke

**velutinum** (Bernh.) Körber

**zwackhii** (Hepp) A. Massal. (Harris & Lendemer 2005)

acrotellum Arnold = *T. minutulum*

circumspersellum (Nyl.) Zschacke North American record is *Porina linearis* (Nash 2002)

mesotropum (Nyl.) A. L. Sm. = *T. minutulum*

microbolum (Tuck.) Hasse = *T. fontigenum* (Orange 2009)

viride (Deak.) Zahlbr. (Fink 1935) = *T. pyrenophorum* (Santesson et al. 2004)

**THELIGNYA** A. Massal.

**lignyota** (Wahlenb.) P. M. Jørg. & Henssen Syn.: *Porocyphus dispersus*

**THELOCARPON** Nyl. ex Hue

**epibolum** Nyl.

\***epibolum** var. **epithallinum** (Leighton ex Nyl.) G. Salisb.

**hassei** B. de Lesd.

**impressellum** Nyl. (Dillman et al. 2012)

**intermediellum** Nyl.

**laureri** (Flotow) Nyl.

\***lichenicola** (Fuckel) Poelt & Hafellner (Hafellner et al. 2002)

**sphaerosporum** H. Magn. Syn.: *Ahlesia sphaerospora*

**superellum** Nyl.

albomarginatum Herre = *Acarospora elevata*

epilithellum Nyl. = *T. laureri*

fimicola Fink = *T. intermediellum*

majusculum Nyl. = *T. laureri*

prasinellum Nyl. = *T. laureri*

**THELOMMA** A. Massal.

**brunneum** (W. A. Weber) M. Prieto & Wedin Syn.: *Cyphelium brunneum* (Prieto & Wedin 2017)

**californicum** (Tuck.) Tibell Syns.: *Cyphelium californicum*, *C. farlowii*, *C. andersonii*

**mammosum** (Hepp) A. Massal. Syn.: *Cypheliopsis bolanderi*

**santessonii** Tibell

**carolinianum** (Tuck.) Tibell = *Calicium carolinianum*

**occidentale** (Herre) Tibell = *Pseudothelomma occidentale*

**ocellatum** (Körber) Tibell = *Pseudothelomma ocellatum*

**THELOPSIS** Nyl.

**flaveola** Arnold

**inordinata** Nyl.

**isiaca** Stizenb.  
**melathelia** Nyl.  
**rubella** Nyl.  
subporinella Nyl. = T. isiaca

#### **THELOTREMA** Ach.

**adjectum** Nyl.  
**californicum** Tuck. Syn.: Phaeotrema californicum  
**circumscriptum** C. Knight (fide T. Lumbsch, see appendix)  
**defectum** Hale  
**dilatatum** (Müll. Arg.) Hale  
**eximium** R. C. Harris  
**floridense** R. C. Harris  
**lacteum** Kremp.  
**lathraeum** Tuck. Syn.: Ocellularia lathraea  
**lepadinum** (Ach.) Ach.  
**monospermum** R. C. Harris Syns.: Leptotrema lepadodes, L. monosporum auct.  
**pachysporum** Nyl. (Lücking et al. 2011b)  
**petractoides** P. M. Jørg. & Brodo (Purvis et al. 1995)  
**porinoides** Mont. & Bosch Syn.: Ocellularia floridensis  
**subtile** Tuck. Syn.: Ocellularia subtilis  
**suecicum** (H. Magn.) P. James (Esslinger & Egan 1995)  
alborosellum (Nyl.) Tuck. = Chapsa alborosella  
bahianum Ach. var. obturascens Nyl. = Ocellularia obturascens  
carneum Eckfeldt = Mazosia carnea  
clandestinum Fée = Myriotrema clandestinum , but a misidentification for N. America  
domingense (Fée) Tuck. = Ocellularia domingensis, but a misidentification for N. America  
glauescens Nyl. = Leucodecton glauescens  
granulosum Tuck. = Rhabdodiscus granulosus  
**halei** (Tuck. & Mont.) Zahlbr. = *Fibrillithecis halei* (Lücking et al. 2016)  
heterosporum C. Knight ex F. M. Bailey = Reimnitzia santensis  
interpositum (Nyl.) Müll. Arg. = Ocellularia interposita, but a misidentification for North America  
leiostomum Tuck. = Redingeria leiostoma (Tuck.) A. Frisch, but a misidentification for North America (Frisch & Kalb 2006)  
leprocarpum (Nyl.) Tuck. = Chapsa leprocarpa  
monosporum auct. = T. monospermum for North American records  
platycarpoides Tuck. (Harris 1995a) = Chapsa platycarpoides  
platycarpum Tuck. = Chapsa platycarpoides  
postpositum Nyl. = Ocellularia postposita  
praestans Müll. Arg. = Ocellularia praestans  
ravenelii Tuck. = Sanguinotrema wightii  
sanfordianum Zahlbr. = Ocellularia sanfordiana  
santense Tuck. = Reimnitzia santensis  
texanum Willey ex Nyl. = Trinathotrema stictideum  
wightii (Taylor) Nyl. = Sanguinotrema wightii

#### **THERMUTIS** Fr.

**velutina** (Ach.) Flotow

#### **THOLURNA** Norman

**disimilis** (Norman) Norman

#### **THROMBIUM** Wallr.

**aoristum** (Nyl.) Arnold (Breuss 2002f)  
**discordans** (Nyl.) Zahlbr.



**epigaeum** (Pers.) Wallr.  
mongolicum H. Magn. = misidentification for North America (Morse & Ladd 2015)

**THYREA** A. Massal.

**confusa** Henssen (Henssen & Jørgensen 1990)  
**girardii** (Durieu & Mont.) Bagl. & Carestia Syn.: *Omphalaria girardii*  
**demangeonii** (Moug. & Mont.) Fink = *Phylliscum demangeonii*  
**nigritella** Lettau = *Lichinella nigritella*  
**pulvinata** auct. North American = *T. confusa*  
**pulvinata** (Schaerer) A. Massal. = *Gonohymenia iodopulchra* (Croz.) Henssen, but not in North America  
**pyrenoides** (Nyl.) Fink = *Paulia pyrenoides*

**TICHOTHECIUM** Flotow = **VERRUCARIA**

\***pygmaeum** Körber = *Muellerella pygmaea*  
\***zahlbrucknerella** Henssen = *Endococcus zahlbrucknerellae*

**TINGIOPSIDIUM** Werner (Hafellner & Spribille 2016)

**elaeinum** (Wahlenb. ex Ach.) Hafellner & T. Sprib. Syn.: *Vestergrenopsis elaeina*  
**isidiatum** (Degel.) Hafellner & T. Sprib. Syns.: *Pannaria isidiata*, *Vestergrenopsis isidiata*  
**sonomense** (Tuck.) Hafellner & T. Sprib. Syns.: *Koerberia sonomensis*, *Pannaria sonomensis*, *Vestergrenopsis sonomensis*

**TOENSBERGIA** Bendiksby & Timdal (Bendiksby & Timdal 2013)

**leucococca** (R. Sant.) Bendiksby & Timdal Syn.: *Pycnora leucococca*

**TOMASELLIA** A. Massal.

**americana** (Minks ex Willey) R. C. Harris  
[**Mycoporellum difforme** (Minks) Fink]  
**macularis** (Minks ex Willey) R. C. Harris (Harris 1995a) Syn.: *Cyrtidula macularis*  
**californica** (Zahlbr.) R. C. Harris = *Mycoporum californicum*  
**eschweileri** (Müll. Arg.) R. C. Harris = *Mycoporum eschweileri*  
**esenbeckiana** (Fée) Müll. Arg. = *Melanotheca esenbeckiana*, but a misidentification for N. America  
**lactea** (Ach.) R. C. Harris = *Mycoporum lactaeum*  
**sparsella** (Nyl.) R. C. Harris = *Mycoporum sparsellum*

**TONINIA** A. Massal.

**alutacea** (Anzi) Jatta  
**arctica** Timdal  
**aromatica** (Turner) A. Massal.  
**athallina** (Hepp) Timdal Syns.: *Catillaria athallina*, *Kiliasia athallina*  
**bullata** (Meyen & Flotow) Zahlbr.  
**candida** (Weber) Th. Fr.  
**cinereovirens** (Schaerer) A. Massal.  
**lutosa** (Ach.) Timdal Syn.: (?)*Catillaria crystallifera*  
**massata** (Tuck.) Herre  
**nashii** Timdal (Timdal 2002c)  
**opuntioides** (Vill.) Timdal  
**pennina** (Schaerer) Gyelnik  
**philippea** (Mont.) Timdal Syns.: *Kiliasia philippea*, *Catillaria arctica*, *C. kansuensis*, *C. philippea*  
**physaroides** (Opiz) Zahlbr.  
**ruginosa** (Tuck.) Herre subsp. **ruginosa**  
**ruginosa** subsp. **pacifica** Timdal  
**sculpturata** (H. Magn.) Timdal Syn.: *Catillaria sculpturata*  
**sedifolia** (Scop.) Timdal  
**squalescens** (Nyl.) Th. Fr. (Coppins & Fryday 2006b) But misplaced here?

**squalida** (Ach.) A. Massal.  
**subdiffracta** Timdal  
**\*subdispersa** (Nyl. ex Hasse) K. Knudsen Syn.: *Lecania subdispersa* (Knudsen & Lendemer 2007)  
**submexicana** B. de Lesd.  
**subnitida** (Hellbom) Hafellner & Türk (Hafellner & Türk 2001) Syns.: *Catillaria tristis*, *C. subnitida*, *Kiliasia tristis*  
**\*subtalparum** van den Boom (van den Boom 2004)  
**superioris** Timdal  
**taurica** (Szatala) Oxner (McCune et al. 2014b)  
**tristis** (Th. Fr.) Th. Fr. subsp. **tristis**  
**tristis** subsp. **arizonica** Timdal  
**tristis** subsp. **asiae-centralis** (H. Magn.) Timdal  
**tristis** subsp. **canadensis** Timdal  
**tristis** subsp. **scholanderi** (Lynge) Timdal Syns.: *Lecidea scholanderi*, *Psora scholanderi*  
**\*verrucarioides** (Nyl.) Timdal  
**weberi** Timdal  
*caulescens* Anzi = *T. squalida*  
*coeruleonigricans* auct. = *T. sedifolia*  
*coeruleonigricans* (Lightf.) Th. Fr. = *Pannaria praetermissa*, nom. rej. prop.  
*conglomerata* (Ach.) Boistel = *Psorinia conglomerata*  
*cumulata* (Sommerf.) Th. Fr. Excluded from *Toninia*; a misidentification for North America  
*kolax* Poelt = *T. verrucarioides*  
*lobulata* (Sommerf.) Lynge = *Bilimbia lobulata*  
*squarrosa* (Ach.) Th. Fr. = *T. squalida*  
*tabacina* auct. = *T. tristis*  
*talparum* Timdal = *T. subdispersa*

#### TOPELIA P. M. Jørg. & Vězda

**aperiens** P. M. Jørg. & Vězda  
**californica** P. M. Jørg. & Vězda  
**gyalectodes** (Nyl.) B. D. Ryan & H. T. Lumbsch Syn.: *Lecanora gyalectodes* (Ryan & Lumbsch 2007, Knudsen et al. 2008b)

#### TOPELIOPSIS Kantvilas & Vězda

*toensbergii* Vězda & Kantvilas (Kantvilas & Vězda 2000) = *Melanotopelia toensbergii*

#### TORNABEA Østh.

*scutellifera* (With.) J. R. Laundon (Nimis & Tretiach 1997) North American report was based on specimens of *Seiophora californica* (Knudsen & Kocourková 2016)

#### TRAPELIA M. Choisy

**coarctata** (Turner) M. Choisy Syn.: *Lecidea coarctata*  
**corticola** Coppins & P. James  
**glebulosa** (Sm.) J. R. Laundon Syns.: *Lecidea gregaria*, *L. ornata* (Laundon 2005)  
**obtegens** (Th. Fr.) Hertel Syn.: *Lecidea obtegens*  
**placodioides** Coppins & P. James  
**stipitata** Brodo & Lendemer (Brodo & Lendemer 2015)  
*brujeriana* (D. Dietr.) M. Choisy = *Ainoa mooreana*, but a misidentification for North America  
*involuta* (Taylor) Hertel = *T. glebulosa*  
*mooreana* (Carroll) P. James = *Ainoa mooreana*, but a misidentification for North America (Brodo & Lendemer 2015)  
*torellii* (Anzi) Hertel = *Ainoa mooreana*, but a misidentification for North America

#### TRAPELIOPSIS Hertel & Gotth. Schneider

**aeneofusca** (Flotow) Coppins & P. James (Aptroot 1996)  
**bisorediata** McCune & Camacho (McCune et al. 2002)

**flexuosa** (Fr.) Coppins & P. James Syns.: *Lecidea aeruginosa*, *L. flexuosa*  
**gelatinosa** (Flörke) Coppins & P. James Syns.: *Lecidea gelatinosa*, *Micarea gelatinosa*  
**glaucopholis** (Nyl. ex Hasse) Printzen & McCune Syn.: *Lecidea glaucopholis*, *L. admiscens*, *L. granulosa* var. *phyllizans* (Printzen & McCune 2004)  
**granulosa** (Hoffm.) Lumbsch Syns.: *Lecidea granulosa*, *L. quadricolor*  
**pseudogranulosa** Coppins & P. James  
**steppica** McCune & Camacho (McCune et al. 2002)  
**viridescens** (Schrader) Coppins & P. James Syns.: *Biatora viridescens*, *Lecidea viridescens*, *Micarea viridescens*  
*californica* McCune & Camacho (McCune et al. 2002) = *T. glaucopholis*  
*wallrothii* (Flörke) Hertel & Gotth. Schneider North American reports are *T. californica* (McCune et al. 2002)

#### **TREMATOSPHAERIOPSIS Elenkin**

\***parmeliana** (Jacz.) Elenkin (Hafellner 2001)

#### **TREMELLA Pers.**

\***caloplacae** (Zahlbr.) Diederich (Diederich 2007a)  
 \***candelariellae** Diederich & Etayo (Harris 2006a)  
 \***cetrariicola** Diederich & Coppins (Diederich 1996)  
 \***christiansenii** Diederich (Freebury 2014)  
 \***cladoniae** Diederich & M. S. Christ. (Diederich 1996)  
 \***dendrographae** Diederich & Tehler (Diederich 1996)  
 \***diploschistina** Millanes, M. Westb., Wedin & Diederich (Millanes et al. 2012)  
 \***dirinariae** Diederich, Millanes & Wedin (Ariyawansa et al. 2015)  
 \***everniae** Diederich (Diederich 1996)  
 \***graphidis** Diederich, Millanes, Wedin & Common (Ariyawansa et al. 2015)  
 \***haematommatis** Diederich (Diederich 1996)  
 \***harrisii** Diederich (Diederich 1996)  
 \***hypogymniae** Diederich & M. S. Christ. (Diederich 1996)  
 \***lethariae** Diederich (Diederich 2003)  
 \***lichenicola** Diederich (Diederich 1996)  
 \***nashii** Diederich (Diederich 2007a)  
 \***nephromatis** Diederich (Diederich 1996)  
 \***nieblae** Diederich & van den Boom (Diederich 2007a)  
 \***papuana** Diederich (Diederich 2003)  
 \***parmeliarum** Diederich (Diederich 1996)  
 \***pertusariae** Diederich (Diederich 1996)  
 \***phaeographinae** Diederich & Aptroot (Diederich 1996)  
 \***phaeophysciae** Diederich & M. S. Christ. (Diederich 2003)  
 \***pyrenulae** Diederich, Millanes, Wedin & Common (Ariyawansa et al. 2015)  
 \***ramalinae** Diederich (Diederich 2003)  
 \***tuckerae** Diederich (Diederich 2007a)  
 \***leptogii** Diederich (Diederich 2003) According to Diederich (2004b), in N.A. known only from Mexico.

#### **TREMOLECIA M. Choisy**

**atrata** (Ach.) Hertel Syns.: *Lecidea atrata*, *L. dicksonii* auct.  
*jurana* (Schaerer) Hertel = *Farnoldia jurana*  
*micropsis* (A. Massal.) Hertel = *Farnoldia micropsis*  
*nivalis* (Anzi) Hertel = *Farnoldia micropsis*

#### **TRICHARIA Fée**

**cretacea** Vězda  
**cuneata** L. I. Ferraro & Vězda (Lücking et al. 2007)  
**duotela** W. B. Sanders & Lücking (Sanders & Lücking 2015)



**floridensis** Lücking & W. R. Buck (Lücking et al. 2007)  
**santessonii** D. Hawksw.  
**subumbrosa** Lücking & W. R. Buck (Lücking et al. 2007)  
**tuckerae** Lücking & W. R. Buck (Lücking et al. 2007)  
**vainioi** R. Sant. (Lücking et al. 2007)  
melanothrix Fée = T. santessonii and T. vezdae for North American records  
vezdae W. R. Buck = Gyalideopsis buckii

**TRICHONECTRIA** Kirschst.

\***rubefaciens** (Ellis & Everh.) Diederich & Schroers (Sèrusiaux et al. 1999) = Nectriopsis rubefaciens

**TRICHORAMALINA** Rundel & Bowler

**crinita** (Tuck.) Rundel & Bowler Syn.: Ramalina crinita

**TRICHOSPHAERELLA** E. Bommer, M. Rousseau & Sacc.

\***buckii** R. C. Harris & Lendemer (Lendemer et al. 2016c)

**TRICHOSPHAERIA** Fuckel

\***lichenum** P. Karsten & Har. (Zhurbenko 2009b)

**TRICHOTHELIUM** Müll. Arg. (Harris 2005)

**americanum** Lendemer (Lendemer 2016b)

**epiphyllum** Müll. Arg.

aeneum (Wallr.) R. C. Harris = Pseudosagedia aenea

angustisporum Cáceres & Lücking (Lücking & Cáceres 2001) North American reports are T.

americanum (Lendemer 2016b)

cestrense (E. Michener) R. C. Harris = Pseudosagedia cestrensis

chloroticum (Ach.) R. C. Harris = Pseudosagedia chlorotica

crocynioides R. C. Harris = Pseudosagedia crocynioides

guentheri (Flotow) R. C. Harris = Pseudosagedia guentheri

horridulum (Müll. Arg.) R. Sant. North American reports are T. americanum (Lendemer 2016b)

isidiatum R. C. Harris = Pseudosagedia isidiata

lineare (Leighton) R. C. Harris = Porina linearis

nitidulum (Müll. Arg.) R. C. Harris = Pseudosagedia nitidula

rhaphidospermum (Müll. Arg.) R. C. Harris = Pseudosagedia rhaphidosperma

thaxteri (R. Sant.) R. C. Harris = Pseudosagedia thaxteri

**TRIMMATOSTROMA** Corda

\***dendrographae** Diederich, Ertz, U. Braun & Heuchert (Kocourková et al. 2012)

**TRIMMATOTHELE** Norman ex Zahlbr.

umbellulariae Herre = Anisomeridium biforme (Lendemer & Knudsen 2007)

**TRIMMATOTHELOPSIS** Zschacke (Knudsen & Lendemer 2016)

**americana** (K. Knudsen & Lendemer) K. Knudsen & Lendemer Syn.: Melanophloea americana, Thelenella americana (Knudsen & Lendemer 2016)

**dispersa** (H. Magn.) K. Knudsen & Lendemer Syn.: Acarospora dispersa (Knudsen & Lendemer 2016)

**terricola** (H. Magn.) K. Knudsen & Lendemer Syn.: Acarospora terricola (Knudsen & Lendemer 2016)

**TRINATHOTREMA** Lücking, Rivas Plata & Mangold

**stictideum** (Nyl.) Lücking, R. Miranda & Kalb (Lücking et al. 2011)

**TRYPETHELIUM** Sprengel

**eluteriae** Sprengel

**subeluteriae** Makhija & Patwardhan (Harris 1995a)

**aeneum** (Eschw.) Zahlbr. = *Astrothelium aeneum*

**annulare** (Fée) Mont. = *T. floridanum* for North American records

**carolinianum** Tuck. = *Bathelium carolinianum*

**catervarium** (Fée) Tuck. = *Astrothelium variolosum*

**cruentum** Mont. = *Pyrenula cruenta*

**exocanthum** Tuck. = *T. virens*

**favulosum** Ach. (Fink 1935) Questionable for North America (Esslinger & Tucker 2009)

**floridanum** (Zahlbr. ex M. Choisy) R. C. Harris = *Astrothelium floridanum*

**marcidum** (Fée) Aptroot (Lücking et al. 2011b) = *Astrothelium marcidum*

**mastoideum** (Ach.) Ach. = misidentification for North America (Harris 1995a)

**nitidiusculum** (Nyl.) R. C. Harris = *Astrothelium nitidiusculum*

**ochroleucum** (Eschw.) Nyl. = *Astrothelium phlyctaena*

**pallescens** Fée = *Astrothelium phlyctaena*

**porosum** (Eschw.) Ach. (Fink 1935) = *Astrothelium porosum*

**scoria** Fée (Mohr 1901) = *Astrothelium scoria*

**scorites** Tuck. = *T. virens*

**tropicum** (Ach.) Müll. Arg. = *Nigrovothelium tropicum*

**variatum** Nyl. (Fink 1935) = *Astrothelium variatum* (Nyl.) Aptroot & Lücking Questionable for North America (Esslinger & Tucker 2009)

**variolosum** Ach. (Harris 1995a) = *Astrothelium variolosum*

**virens** Tuck. ex E. Michener = *Viridothelium virens*

#### **TUCKERMANELLA** Essl

**arizonica** Essl. (Esslinger 2003)

**coralligera** (W. A. Weber) Essl. Syn.: *Cetraria coralligera*, *Tuckermannopsis coralligera* (Esslinger 2003)

**fendleri** (Nyl.) Essl. Syn.: *Cetraria fendleri*, *Tuckermannopsis fendleri* (Esslinger 2003)

**weberi** (Essl.) Essl. Syn.: *Cetraria weberi* (Esslinger 2003)

**pseudoweberi** Essl. Erroneously listed here; reported only from Mexico (Esslinger 2003)

#### **TUCKERMANNOPSIS** Gyelnik

**americana** (Sprengel) Hale Syn.: *Cetraria halei*, *C. ciliaris* var. *halei*

**chlorophylla** (Willd.) Hale Syn.: *Cetraria chlorophylla*, *C. scutata* auct. non (Wulfen) Poetsch

**ciliaris** (Ach.) Gyelnik Syn.: *Cetraria ciliaris*

**orbata** (Nyl.) M. J. Lai Syn.: *Cetraria orbata*

**platyphylla** (Tuck.) Hale Syn.: *Cetraria platyphylla* Placement uncertain (Thell et al. 2009)

**sepincola** (Ehrh.) Hale Syn.: *Cetraria sepincola*, *C. scutata* (Wulfen) Poetsch non auct. Placement uncertain (Thell et al. 2009)

**subalpina** (Imshaug) Kärnefelt Syn.: *Cetraria subalpina*, *C. arborialis* Placement uncertain (Thell et al. 2009)

**aurescens** (Tuck.) Hale = *Ahtiana aurescens*

"californica" = *Kaernefeltia californica*

**canadensis** (Räsänen) Hale = *Vulpicida canadensis*

**coralligera** (W. A. Weber) W. A. Weber = *Tuckermanella coralligera*

**fendleri** (Nyl.) Hale = *Tuckermanella fendleri*

**halei** (W. L. Culb. & C. F. Culb.) M. J. Lai = *T. americana*

**inermis** (Nyl.) Kärnefelt = *Masonhalea inermis*

**juniperina** (L.) Hale = Old North American records are *Vulpicida canadensis* or *V. viridis*

**juniperina** (L.) Hale = *Vulpicida juniperina*

**merrillii** (Du Rietz) Hale = *Kaernefeltia merrillii*

**oakesiana** (Tuck.) Hale = *Usnocetraria oakesiana*

**pallidula** (Tuck. ex Riddle) Hale = *Ahtiana pallidula*

**pinastri** (Scop.) Hale = *Vulpicida pinastri*

viridis (Schwein.) Hale = *Vulpicida viridis*  
[*Cetraria weberi* Essl.] = *Tuckermanella weberi*

**TURGIDOSCULUM** Kohlm. & E. Kohlm.  
complicatulum (Nyl.) Kohlm. & E. Kohlm. = *Mastodia tessellata*

**TYLOPHORON** Nyl. ex Stizenb.  
**hibernicum** (D. Hawksw., Coppins & P. James) Ertz, Diederich, Bungartz & Tibell (Lendemer et al. 2013)  
**moderatum** Nyl.  
americanum Lendemer, E. Tripp & R. C. Harris (Lendemer et al. 2013) = *Sporodophoron americanum* (Frisch et al. 2015)  
protrudens Nyl. North American reports were misidentifications of *T. hibernicum* (Lendemer et al. 2013)

**TYLOTHALLIA** P. James & H. Kilius  
**biformigera** (Leighton) P. James & H. Kilius Syns.: *Catillaria biformigera*, *C. bahusiensis*

**UMBILICARIA** Hoffm.  
**americana** Poelt & T. H. Nash  
**angulata** Tuck. Syn.: *Gyrophora angulata*  
**aprina** Nyl.  
**arctica** (Ach.) Nyl. Syn.: *Gyrophora arctica*  
**cinereorufescens** (Schaerer) Frey  
**crustulosa** (Ach.) Frey Syn.: *Omphalodiscus crustulosus*  
**cylindrica** (L.) Delise ex Duby Syn.: *Gyrophora cylindrica*  
**decussata** (Vill.) Zahlbr. Syns.: *Omphalodiscus decussatus*, *Gyrophora decussata*  
**deusta** (L.) Baumg. Syn.: *Gyrophora deusta*, *G. flocculosa*  
**havaasii** Llano  
**hirsuta** (Sw. ex Westr.) Ach.  
**hyperborea** (Ach.) Hoffm. var. **hyperborea** Syn.: *Gyrophora hyperborea*  
**hyperborea** var. **radicicula** (J. E. Zetterst.) Hasselrot  
**lambii** Imshaug  
**leiocarpa** DC. Syn.: *Agyrophora leiocarpa*  
**lyngei** Schol. Syn.: *Agyrophora lyngei*  
**mammulata** (Ach.) Tuck. Syn.: *Gyrophora dillenii*  
**muhlenbergii** (Ach.) Tuck. Syns.: *Actinogyra muhlenbergii*, *Gyrophora muhlenbergii*  
**nodulospora** McCune, Di Meglio & M. J. Curtis (McCune et al. 2014a)  
**nylanderiana** (Zahlbr.) H. Magn.  
**phaea** Tuck. Syn.: *Gyrophora phaea*  
**polaris** (Schol.) Zahlbr. Syn.: *Omphalodiscus krascheninnikovii* auct.  
**polyphylla** (L.) Baumg. Syn.: *Gyrophora polyphylla*  
**polyrhiza** (L.) Fr. Syns.: *Actinogyra polyrhiza*, *Gyrophora polyrhiza*  
**proboscidea** (L.) Schrader Syn.: *Gyrophora proboscidea*  
**rigida** (Du Rietz) Frey Syns.: *U. coriacea*, *Agyrophora rigida*, *Gyrophora anthracina*  
**scholanderi** (Llano) Krog Syn.: *Agyrophora scholanderi*  
**semitensis** Tuck. (Fink 1935; McCune & Curtis 2012)  
**subglabra** (Nyl.) Harm. (Nash et al. 1998)  
**torrefacta** (Lightf.) Schrader Syn.: *Gyrophora erosa*, *G. torrefacta*  
**vellea** (L.) Ach. Syn.: *Gyrophora vellea*  
**virginis** Schaerer Syns.: *Omphalodiscus virginis*, *Gyrophora rugifera*  
*caroliniana* Tuck. = *Lasallia caroliniana*  
*coriacea* Imshaug = *U. rigida*  
*dillenii* Tuck. = *U. mammulata*  
*grisea* Hoffm. = misidentification for North America (Esslinger & Tucker 2009)  
*intermedia* Frey = *U. hyperborea*



krascheninnikovii (Savicz) Zahlbr. North American reports are *U. polaris* (Davydov et al. 2011)  
*papulosa* (Ach.) Nyl. = *Lasallia papulosa*  
*pensylvanica* Hoffm. = *Lasallia pensylvanica*  
*pustulata* (L.) Hoffm. = *Lasallia pustulata*  
*pustulata* var. *papulosa* (Ach.) Tuck. = *Lasallia papulosa*

#### UNGUICULARIOPSIS Rehm

\***fasciculata** Etayo (Etayo & Triebel 2010)  
 \***lettaui** (Grumann) Coppins (Diederich 2003)  
 \***refractiva** (Coppins) Coppins (Zhurbenko 2009a)  
 \***thallophila** (P. Karsten) W. Y. Zhuang (Diederich 2003)  
 \***nephromatis** Zhurb. & Zavarzin (Zhurbenko 2007b) = *Protounguicularia nephromatis*

#### URCEOLARIA Hooker = ASPICILIA

*actinostoma* Ach. = *Diploschistes actinostomus*  
*albissima* (Ach.) Fink = *Diploschistes diacapsis*  
*scruposa* (Schreber) Ach. = *Diploschistes scruposus*

#### USNEA Dill. ex Adanson

**aculeata** Motyka (apparent nomen nudum, identity uncertain)  
**affinis** Motyka (apparent nomen nudum, identity uncertain)  
**alpina** Motyka  
**amabilis** Motyka  
**amblyoclada** (Müll. Arg.) Zahlbr. (Clerc & Herrera-Campos 1997)  
**angulata** Ach.  
**australis** Fr.  
**baileyi** (Stirton) Zahlbr.  
**brasiliensis** (Zahlbr.) Motyka (Pérez-Vargas et al. 2010)  
**brattiae** P. Clerc (Clerc 2007)  
**californica** Herre  
**capillaris** Motyka  
**catenulata** Motyka (Identification uncertain)  
**cavernosa** Tuck.  
**ceratina** Ach.  
**chaetophora** Stirton (Halonen et al. 1998)  
**cirrosa** Motyka  
**condensata** Motyka  
**cornuta** Körber subsp. **cornuta**  
**cristatula** Motyka (Knudsen & Lendemer 2006)  
**cylindrica** P. Clerc (Dillman et al. 2012)  
**dasaea** Stirton (Clerc & Herrera-Campos 1997)  
**dasopoga** (Ach.) Nyl. (Arcadia 2013)  
**deformis** Motyka  
**diffracta** Vainio (Lendemer et al. 2008c)  
**dimorpha** (Müll. Arg.) Motyka  
**diplotypus** Vainio (Halonen et al. 1998)  
**endochrysea** Stirton  
**entoviolata** Motyka (Clerc 2004, Lendemer & Tripp 2008)  
**erinacea** Vainio (Tavares & Sanders 1998; Clerc 2011)  
**esperantiana** Clerc (Halonen et al. 1998)  
**evansii** Motyka  
**fibrillosa** Motyka  
**flammea** Stirton (Clerc & May 2007)  
**flavocardia** Räsänen (Clerc 2004)  
**florida** (L.) Weber ex F. H. Wigg. (questionable for North America, Tavares & Sanders 1998)  
**fragilescens** Hav. ex Lynge

**fragilescens** var. **mollis** (Vainio) Clerc  
**freyi** Motyka  
**fulvoreagens** (Räsänen) Räsänen  
**furfurosula** (Zahlbr.) Motyka  
**glabrata** (Ach.) Vainio  
**glabrescens** (Nyl. ex Vainio) Vainio  
**graciosa** Motyka (Identification uncertain)  
**halei** P. Clerc (Clerc & Herrera-Campos 1997)  
**hirta** (L.) Weber ex F. H. Wigg.  
**intermedia** (A. Massal.) Jatta (Clerc 2007)  
**lambii** (Imshaug) Wirtz & Lumbsch Syn.: *Neuropogon lambii* (Wirtz et al. 2008; Lumbsch & Wirtz 2011)  
**leucosticta** Vainio  
**longissima** Ach.  
**macaronesica** P. Clerc (Clerc 2011)  
**meridionalis** Zahlbr. Syn.: *U. michauxii* (Gerlach et al. 2017)  
**merrillii** Motyka  
**mexicana** Vainio (Truong et al. 2013)  
**mirabilis** Motyka  
**monstruosa** Vainio  
**mutabilis** Stirton  
**myrmaiacaina** P. Clerc (Clerc 2007)  
**nidulans** Motyka (Halonen et al. 1998)  
**occidentalis** Motyka  
**pacificana** P. Halonen (Halonen 2000)  
**parafloridana** K. Mark, Will-Wolf & Randle (Mark et al. 2016)  
**parvula** Motyka (Clerc 2007)  
**perhispidella** J. Steiner (Clerc 2016)  
**perplexans** Stirton (Clerc 2016)  
**poliotrix** Kremp. (Clerc 2016)  
**praetervisa** (Asahina) P. Clerc (Clerc 2004)  
**quasirigida** Lendemer & Tavares (Lendemer & Tavares 2003)  
**ramillosa** Motyka  
**roseola** Vainio  
**rubicunda** Stirton  
**scabrata** Nyl.  
**scholanderi** Llano  
**silesiaca** Motyka (Tavares 1997; Gams 2004)  
**silvatica** Motyka  
**sphacelata** R. Br. Syn.: *Neuropogon sphacelatus*, *N. sulphureus*  
**strigosa** (Ach.) Eaton subsp. **major** (Michaux) I. Tav.  
**strigosa** subsp. **rubiginea** (Michaux) I. Tav. Syn.: *U. rubiginea*  
**strigosa** subsp. **strigosa**  
**subcornuta** Stirton (Brodo et al. 2001)  
**subdasaea** Truong & P. Clerc (Clerc 2016)  
**subfloridana** Stirton  
**subfusca** Stirton  
**subgracilis** Vainio (Tavares 1997; Clerc 2004; Truong et al. 2013)  
**subrubicunda** P. Clerc (Clerc 2011)  
**subscabrosa** Nyl. ex Motyka  
**transitoria** Motyka (Truong et al. 2013)  
**trichodea** Ach.  
**tristis** Motyka  
**vainioi** Motyka  
**variegata** Stirton  
**wasmuthii** Räsänen  
**xanthopoga** Nyl.

ammannii P. Clerc & Herrera-Campos In North America, only known in Mexico (Clerc & Herrera-Campos 1997)  
 antillarum (Vainio) Zahlbr. = *U. baileyi*  
 arizonica Motyka = *U. intermedia* (Clerc 2007)  
 articulata (L.) Hoffm. = misidentification for North America  
 barbata (L.) F. H. Wigg. = misidentification for North America?  
 barbata var. xanthopoga Müll. Arg. = *U. xanthopoga*  
 betulina Motyka = (?) *U. glabrescens*  
 cornuta subsp. brasiliensis (Zahlbr.) P. Clerc (Clerc 2007) = *U. brasiliensis*  
 caucasica Vainio = (?) *U. dasopoga*  
 ciliifera Motyka (apparent nomen nudum) = *U. cirrosa* (fide J. Lendemer)  
 comosa auct. = *U. subfloridana*  
 compacta (Räsänen) Motyka = *U. glabrescens*  
 confusa Asahina = *U. cornuta*  
 diplotypus Vainio = saxicolous specimens were misidentification for North America (Clerc & Herrera-Campos 1997)  
 distincta Motyka = *U. glabrescens*  
 duriuscula Motyka = *U. mexicana* (Truong et al. 2013) However, the two names represent different chemotypes  
 esthonica Räsänen = *U. dasopoga*  
 filipendula Stirton = *U. dasopoga* (Arcadia 2013)  
 finkii Zahlbr. = *U. transitoria* (Truong et al. 2013)  
 flagellata Motyka = *U. dasopoga*  
 globularis Motyka = *U. amblyoclada*  
 herrei Hale = nom. nud.  
 hesperina Motyka = *U. subgracilis*  
 implicita (Stirton) Zahlbr. = *U. baileyi*  
 inflata Delise ex Duby nom. nudum = *U. cornuta*  
 kujalae Räsänen = *U. glabrata*  
 lapponica Vainio = *U. perplexans* (Clerc 2016)  
 laricina Vainio ex Räsänen = (?) *U. lapponica*  
 madeirensis Motyka = *U. silesiaca*  
 michauxii I. Tav. = *U. meridionalis* (Gerlach et al. 2017)  
 mollis Stirton = *U. fragilescens* var. *mollis*  
 montana Motyka = misidentification for North America  
 nashii P. Clerc & Herrera-Campos In North America, only known in Mexico (Clerc & Herrera-Campos 1997)  
 pachyclada Motyka = *U. ceratina* (Clerc 2007)  
 pensylvanica Motyka = *U. rubicunda* (Clerc 2007)  
 perplectata Motyka = *U. baileyi* (Clerc 2007)  
 perplexans Stirton (Clerc 1987) = an Asian taxon, not present in North America  
 plicata (L.) Weber ex F. H. Wigg. = misidentification for North America  
 prostrata Vainio ex Räsänen = *U. barbata*, misidentification for North America?  
 retifera Motyka = *U. intermedia* (Clerc 2007)  
 rigida (Ach.) Motyka (Halonen et al. 1998) = *U. quasirigida*  
 rubiginea (Michaux) A. Massal. = *U. strigosa* subsp. *rubiginea*  
 rugulosa Vainio = *U. scabrata*  
 scabiosa Motyka = *U. scabrata* (Clerc 2007)  
 scabrata subsp. nylanderiana Motyka = chemotype of *U. scabrata*  
 schadenbergiana Göpp. & Stein (Clerc 2007) N.A. reports are *U. subgracilis* (Truong et al. 2013)  
 shimadai Asahina In North America, only known in Mexico (Clerc 2004)  
 similis Motyka ex Räsänen = *U. subfloridana*  
 sorediifera (Arnold) Lynge = *U. glabrata*  
 sorediifera sensu Motyka = *U. substerilis* (Clerc 2007)  
 spinulifera (Vainio) Motyka = *U. dasaea* (Clerc 2007)  
 stuppea (Räsänen) Motyka = *U. substerilis* (Clerc 2007)



subcavata Motyka = U. perplectata  
subhirta (Vainio) Motyka = U. cornuta subsp. cornuta (Clerc 2007)  
sublaxa Vainio = U. dasopoga  
substerilis Motyka = U. lapponica (Mark et al. 2016)  
variolosa Motyka = U. hirta (Clerc 1997)  
wirthii Clerc = U. flavocardia

**USNOCETRARIA** M. J. Lai & C. J. Wei

**oakesiana** (Tuck.) M. J. Lai & C. J. Wei Syns.: Allocetraria oakesiana, Cetraria oakesiana, Tuckermannopsis oakesiana (Thell et al. 2009)

**VAHLIELLA** P. M. Jørg. (Jørgensen 2008)

**californica** (Tuck.) P. M. Jørg. (Jørgensen 2008) Syns. Fuscopannaria californica, Pannaria microphylla var. californica  
**globigera** (Fryday & P. M. Jørg.) P. M. Jørg. (Jørgensen 2008) Syn.: Fuscopannaria globigera  
**hookerioides** (P. M. Jørg.) P. M. Jørg. (Jørgensen 2008) Syn.: Fuscopannaria hookerioides  
**labrata** (P. M. Jørg.) P. M. Jørg. (Jørgensen 2008) Syn.: Fuscopannaria labrata  
**leucophaea** (Vahl) P. M. Jørg. (Jørgensen 2008) Syns.: Fuscopannaria leucophaea, Pannaria leucophaea, Parmeliella microphylla  
**saubinetii** (Mont.) P. M. Jørg. (Jørgensen 2008) Syns.: Fuscopannaria saubinetii, Parmeliella saubinetii

**VAINIONORA** Kalb

**americana** Kalb, Tønsberg & Elix (Kalb 2004b)

**VARICELLARIA** Nyl.

**lactea** (L.) Schmitt & Lumbsch (McMullin et al. 2017)  
**rhodocarpa** (Körber) Th. Fr.  
**velata** (Turner) Schmitt & Lumbsch (Schmitt et al. 2012) Syn.: Pertusaria velata  
kemensis Räsänen = V. rhodocarpa

**VARIOLARIA** Ach. (Lendemer et al. 2013, [Lendemer & Harris 2017](#))

**amara** Ach. = *Lepra amara*  
**multipunctoides** (Dibben) Lendemer, Hodkinson & R. C. Harris = *Lepra multipunctoides*  
**ophthalmiza** (Nyl.) Darb. = *Lepra ophthalmiza*  
**pustulata** (Brodo & W. L. Culb.) Lendemer, Hodkinson & R. C. Harris = *Lepra pustulata*  
**trachythallina** (Erichsen) Lendemer, Hodkinson & R. C. Harris = *Lepra trachythallina*  
**waghornei** (Hulting) Darb. = *Lepra waghornei*

**VARIOSPORA** Arup, Søchting & Frödén (Arup et al. 2013)

**aurantia** (Pers.) Arup, Søchting & Frödén Syns.: Caloplaca aurantia, C. callopisma  
**velana** (A. Massal.) Arup, Søchting & Frödén Syn.: Caloplaca velana

**VERMILACINIA** Spjut & Hale (Spjut 1996) = **NIEBLA** (Bowler & Marsh 2004)

**acicularis** Spjut (Spjut 1996) = *Niebla ceruchoides*  
**cephalota** (Tuck.) Spjut & Hale (Spjut 1996) = *Niebla cephalota*  
**cerebra** Spjut (Spjut 1996) = *Niebla ceruchis*  
**ceruchoides** (Rundel & Bowler) Spjut (Spjut 1996) = *Niebla ceruchoides*  
**combeoides** (Nyl.) Spjut & Hale (Spjut 1996) = *Niebla combeoides*  
**corrugata** Spjut (Spjut 1996) = *Niebla ceruchis*  
**howei** Spjut (Spjut 1996) = *Niebla ceruchis*  
**laevigata** (Rundel & Bowler) Spjut (Spjut 1996) = *Niebla laevigata*  
**leopardina** Spjut (Spjut 1996) = *Niebla ceruchis*  
**nylanderi** Spjut (Spjut 1996) = *Niebla ceruchis*  
**paleoderma** Spjut (Spjut 1996) = *Niebla laevigata*  
**polymorpha** (Bowler, Marsh, T. H. Nash & Riefner) Spjut (Spjut 1996) = *Niebla polymorpha*

*procera* (Bowler & Rundel) Spjut (Spjut 1996) = *Niebla procera*  
*pumila* Spjut (Spjut 1996) = *Niebla ceruchoides*  
*reptiloderma* Spjut (Spjut 1996) = *Niebla cedrosensis*  
*robusta* (Howe) Spjut & Hale (Spjut 1996) = *Niebla robusta*  
*tigrina* (Follmann) Spjut & Hale (Spjut 1996) = misidentification for North America  
*tuberculata* (Riefner, Bowler, J. E. Marsh & T. H. Nash) Spjut (Spjut 1996) = *Niebla tuberculata*  
*zebrina* Spjut (Spjut 1996) = *Niebla ceruchis*

## **VERRUCARIA** Schrader

**acrotella** Ach.  
**adelminienii** Zschacke (Breuss 2007b)  
**aethiobola** Wahlenb.  
**alutacea** Wallr. (Breuss 2007b)  
**americana** (B. de Lesd.) Breuss Syn.: *Endopyrenium americanum* (Breuss 2007b)  
**amylacea** Hepp  
**applanata** Hepp  
**arctica** Lynge  
**aspecta** Breuss (Breuss 2007b)  
**asperula** Servít (Breuss 2007b)  
**beltraminiana** (A. Massal.) Trevisan (Breuss 2007b)  
**bernaicensis** Malbr. (Breuss 2007b)  
**#bernardinensis** Breuss (Breuss 2007b)  
**boccana** Servít (Knudsen & Kocourková 2012b)  
**breussii** Diederich & van den Boom (McCune et al. 2014b)  
**bryoctona** (Th. Fr.) A. Orange (Breuss 2002b)  
**caerulea** DC.  
**calkinsiana** Servít  
**carbonusta** Breuss (Hutten et al. 2013)  
**cataleptoides** (Nyl.) Nyl.  
**#cetera** Breuss (Breuss 1998)  
**ceuthocarpa** Wahlenb.  
**confluens** A. Massal. (Breuss 2007b, McCune et al. 2014b)  
**dacryodes** Nyl.  
**degelii** R. Sant.  
**denudata** Zschacke (McMullin et al. 2017)  
**divergens** Nyl.  
**devergescens** Nyl.  
**deversa** Vainio  
**ditmarsica** Erichsen  
**dolomitica** (A. Massal.) Kremp. (McCune et al. 2014b)  
**dolosa** Hepp  
**elaeina** Borrer (Breuss 2007b, Knudsen 2007c)  
**elaeomelaena** (A. Massal.) Arnold  
**endocarpoides** Servít (Breuss 2007b)  
**epimaura** Brodo (Brodo & Santesson 1997)  
**erichsenii** Zschacke  
**falcata** Breuss (Breuss 2007b)  
**fayettensis** Servít  
**finkiana** Servít  
**fischeri** Müll. Arg. (McCune et al. 2014b)  
**floerkeana** Dalla Torre & Sarnth (Breuss 2007b)  
**fraudulosa** Nyl. (Breuss 2007b)  
**funckii** (Sprengel) Zahlbr.  
**furfuracea** (B. de Lesd.) Breuss (Breuss 2007b, Knudsen 2007c)  
**fusca** Pers. (Tucker et al. 2006)  
**fuscoatroides** Servít (Knudsen & La Doux 2006)

**fusconigrescens** Nyl.  
**glaucovirens** Grumann  
**halizoa** Leighton  
**hochstetteri** Fr. (McCune et al. 2014b)  
**hydrela** Ach.  
**illinoisensis** Servít  
**incrassata** Breuss (Breuss 2007b)  
**inficiens** Breuss Syns.: Catapyrenium plumbeum, Dermatocarpon plumbeum, Endopyrenium plumbeum (Breuss 1998)  
**inornata** Servít (Breuss 2007b)  
**integra** (Nyl.) Nyl.  
**internigrescens** (Nyl.) Erichsen  
**iovensis** Servít  
**kondaensis** Vainio (McCune et al. 2014b)  
**kootenaica** Breuss & T. Sprib. (Breuss & Spribille 2001)  
**latebrosa** Körber (Spribille et al. 2010)  
**lobata** J. W. Thomson  
**macrostoma** Dufour ex DC.  
**maculicarpa** Breuss (Breuss 2007b)  
**margacea** (Wahlenb.) Wahlenb.  
**memnonia** (Flotow) Arnold (Tucker et al. 2006, Breuss 2007b)  
**mimicrans** Servít (Breuss 2007b, Knudsen 2007c)  
**muralis** Ach.  
**murorum** (Arnold) Lindau (Breuss 2007b)  
**nigrescens** Pers.  
**nigrescentoidea** Fink  
**nigrofusca** Servít (Breuss 2007b)  
**novomexicana** B. de Lesd.  
**obductilis** (Nyl.) Zschacke (Nash et al. 1998)  
**obnigrescens** Nyl.  
**obsoleta** Lynge  
**onegensis** Vainio (Breuss 2007b)  
**ossiseda** Lynge  
**othmarii** K. Knudsen & L. Arcadia (Knudsen & Kocourková 2012a)  
**phaeothelena** Th. Fr.  
**phloeophila** Breuss (Breuss 2002b)  
**pinguicula** A. Massal.  
**poeltii** (Servít) Breuss (McCune et al. 2014b)  
**praetermissa** (Trevisan) Anzi  
**prominula** Nyl.  
**prosoplectenchymatica** Servít (Breuss 2007b)  
**pseudonigrescens** Servít  
**putnae** Servít (McCune et al. 2014b)  
**quercina** Breuss (Breuss 2007b)  
**riddleana** R. C. Harris (Harris 1995a)  
**runderella** Nyl.  
**rufofuscella** Servít (Breuss 2007b, Knudsen 2007c)  
**rupestris** Schrader  
**sandstedei** B. de Lesd.  
**schindleri** Servít (Breuss 2007b)  
**schofieldii** Brodo (Brodo & Santesson 1997)  
**silicicola** Fink  
**sorbicola** Servít  
**sordida** Fink  
**sphaerospora** Anzi (Goward et al. 1996)  
**sphinctrina** Ach.



**subdivisa** Breuss (Breuss 2007b)  
**subglaucina** B. de Lesd.  
**submersella** Servít  
**submuralis** Nyl.  
**subvirens** Servít (McCune et al. 2014b)  
**tectorum** (A. Massal.) Körber  
**thujae** Lendemer & Breuss (Lendemer & Breuss 2009)  
**trabicola** Arnold ex Servít (Nash et al. 1998, Breuss 2007b)  
**turgida** Servít (Breuss 2007b, Knudsen 2007c)  
**umbrinula** Nyl.  
**viridigrana** Breuss (Breuss 2002b)  
**viridula** (Schrader) Ach.  
**xyloxa** Norman (Breuss 2002b)  
**amphibia** Clemente = *Hydropunctaria amphibia* (Orange 2012)  
aquilella Nyl. = *V. aethiobola*  
bacillosa Nyl. = *Sarcopyrenia bacillosa*  
baldensis A. Massal. (Halda 2003) = *Bagliettoa baldensis* (Breuss 2007b)  
calciseda DC. = *Bagliettoa calciseda*  
canella Nyl. = *Placopyrenium canellum*  
cestrensis Tuck. ex E. Michener = *Pseudosagedia cestrensis*  
circumspersella Nyl. = *Thelidium circumspersellum*, but apparent misidentification for North America (Nash 2002)  
#compacta (A. Massal.) Jatta (Knudsen & La Doux 2005) = *Heteropladidium compactum*  
diffractella Nyl. = *Willeya diffractella*  
disjuncta Arnold = *Parabagliettoa disjuncta*  
exalbida Nyl. = *Polyblastia exalbida*  
fulva Cumm. Identity uncertain, illegitimate homonym of *V. fulva* Hoffm. (Dillman et al. 2012)  
fuscella (Turner) Winch = *Placopyrenium fuscillum*  
fuscella var. glaucina (Ach.) Schaerer = *V. caerulea*  
glaucina Ach. = *V. caerulea*  
hymnothora Ach. = *Granulopyrenis hymnothora*  
iowensis Servít = *V. fayettensis*  
intercedens Nyl. = *Polyblastia cupularis*  
kernstockii Zschacke = *Hydropunctaria rheitrophila*  
laevata Ach. = *V. aethiobola*  
lecideoides (A. Massal.) Trevisan = *Placopyrenium lecideoides*  
marmorea (Scop.) Arnold = *Bagliettoa marmorea* (Yuzon et al. 2014)  
maura Wahlenb. = *Hydropunctaria maura*  
melas Herre = *Wahlenbergiella striatula* (Knudsen 2012)  
microbola Tuck. = *Thelidium fontigenum*  
microspora auct. = *V. halizoa*  
microspora Nyl. = *V. striatula*  
minor Breuss (Breuss 2007b) = *Verruculopsis minutum* (Krzewicka 2012)  
mucosa Wahlenb. = *Wahlenbergiella mucosa*  
mutabilis Borrer ex Leighton = nom. illegit.  
obtenta Nyl. = *Sporodictyon terrestre* (Dillman et al. 2012)  
papillosa Ach. (Breuss 2007b, Knudsen et al. 2008b) = *V. viridula* (Orange 2004)  
papillosa Flörke non Ach. = *V. floerkeana* (Breuss 2007b)  
pernigrata Nyl. = *Protothelenella sphinctrinoides* (Dillman et al. 2012)  
perpusilla Russell (Fink 1935) = *Thelidium perpusillum* (A. W. Russell) Zahlbr. Uncertain for North America  
rheitrophila Zschacke = *Hydropunctaria rheitrophila*  
rubrocincta Breuss (Breuss 2000) = *Bagliettoa rubrocincta* (Yuzon et al. 2014)  
rupicola (B. de Lesd.) Breuss non (L.) Humb. = *V. othmarii* (Knudsen & Kocourková 2012a)  
sprucei (Lönnr.) Bab (Fink 1935) = *Thelidium papulare* (Nimis & Martellos 2003)  
stanfordii Herre = *Placopyrenium stanfordii*

striatula Wahlenb. = Wahlenbergiella striatula  
submersa Schaerer = V. submersella  
subsuperficialis Fink = V. striatula  
tavaresiae R. Moe (Moe 1997) = Wahlenbergiella tavaresiae  
terebrata (Mudd) Leighton (Fink 1935) = Staurothele rupifraga (Smith 1926)  
virens Nyl. = V. glaucovirens  
zamenhofiana Clauzade & Cl. Roux = Heteropladidium zamenhofianum (Kocourková et al. 2012)

**VERRUCULOPSIS** Gueidan, Nav.-Ros. & Cl. Roux  
**minutum** (Hepp) Krzewicka Syn.: Verrucaria minor (Krzewicka 2012)

**VESTERGRENOPSIS** Gyelnik = **TINGIOPSIDIUM** (Hafellner & Spribille 2016)  
**elaeina** (Wahlenb.) Gyelnik = Tingiopsidium elaeinum  
**isidiata** (Degel.) E. Dahl = Tingiopsidium isidiatum  
**sonomensis** (Tuck.) T. Sprib. & Muggia (Spribille & Muggia 2012) = Tingiopsidium sonomense

**VEZDAEA** Tschermak-Woess & Poelt  
**acicularis** Coppins (Brodo 2001; Lendemer & Yahr 2004)  
**leprosa** (P. James) Vězda (Buck et al. 1999)  
**retigera** Poelt & Döbbeler (Lendemer & Yahr 2004)  
**rheocarpa** Poelt & Döbbeler (Westberg 2004b)  
**schuyleriana** Lendemer (Lendemer 2011c)  
**stipitata** Poelt & Döbbeler

**VIGNERONIA** Ertz (Ertz et al. 2015b)  
**cypressi** (R. C. Harris) Ertz & Tehler

**VIOLELLA** T. Sprib. (Spribille et al. 2011a)  
**fucata** (Stirton) T. Sprib. Syn.: Mycoblastus fucatus

**VIRIDOTHELIUM** Lücking, M. P. Nelsen & Aptroot  
**virens** (Tuck. ex Michener) Lücking, M. P. Nelsen & Aptroot Syn.: Trypethelium virens (Aptroot et al. 2016)

**VOUAUXIELLA** Petrak & Sydow  
\***lichenicola** (Lindsay) Petrak & Sydow (Esslinger & Egan 1995)  
\***verrucosa** (Vouaux) Petrak & Sydow (Diederich 2003)

**VOUAUXIOMYCES** Dyko & D. Hawksw.  
\***truncatus** (B. de Lesd.) Dyko & D. Hawksw. (= anamorph of Abrothallus microspermus)

**VULPICIDA** J.-E. Mattsson & M. J. Lai  
**canadensis** (Räsänen) J.-E. Mattsson & M. J. Lai Syns.: Cetraria canadensis, Tuckermannopsis canadensis  
**juniperina** (L.) J.-E. Mattsson & M. J. Lai (Saag et al. 2014)  
**pinastri** (Scop.) J.-E. Mattsson & M. J. Lai Syns.: Cetraria pinastri, Tuckermannopsis pinastri  
**viridis** (Schwein.) J.-E. Mattsson & M. J. Lai Syn.: Cetraria viridis, Tuckermannopsis viridis  
**tilesii** (Ach.) J.-E. Mattsson & M. J. Lai = Vulpicida juniperina (Saag et al. 2014)

**WAHLENBERGIELLA** Gueidan & Thüs (Gueidan et al. 2009)  
**mucosa** (Wahlenb.) Gueidan & Thüs Syn.: Verrucaria mucosa  
**striatula** (Wahlenb.) Gueidan & Thüs Syns.: Verrucaria melas, V. striatula  
**tavaresiae** (R. L. Moe) Gueidan, Thüs, & Pérez-Ortega Syn.: Verrucaria tavaresiae (Gueidan et al. 2011)

**WAYNEA** Moberg

**californica** Moberg Erroneously listed here as a synonym of *W. stoechadiana*  
*stoechadiana* (Abbassi Maaf & Cl. Roux) Cl. Roux & Clerc = Not in North America

**WEDDELLOMYCES** D. Hawksw.

\***xanthoparmeliae** Calat. & Nav.-Ros. (Kocourková & Knudsen 2008)

**WENTIOMYCES** Koord.

\***peltigericola** D. Hawksw. (Alstrup & Cole 1998) = *Raciborskiomyces peltigericola*

**WETMOREANA** Arup, Söchting & Frödén (Arup et al. 2013)

**texana** (Wetmore & Kärnefelt) Arup, Frödén & Söchting Syn.: *Caloplaca texana*

**WILLEYA** Müll. Arg. (Gueidan & Lendemer 2015)

**diffractella** (Nyl.) Müll. Arg. Syns.: *Endocarpon tenuissimum*, *E. diffractellum*, *Staurothele diffractella*, *Verrucaria diffractella*

**XANTHOCARPIA** A. Massal. & De Not. (Arup et al. 2013)

**crenulatella** (Nyl.) Frödén, Arup & Söchting Syn.: *Caloplaca crenulatella*

**erichansenii** (S. Y. Kondr., A. Thell, Kärnefelt & Elix) Frödén, Arup & Söchting. Syn.: *Caloplaca erichansenii*

**feracissima** (H. Magn.) Frödén, Arup & Söchting Syn.: *Caloplaca feracissima*

**lactea** (A. Massal.) A. Massal. Syn.: *Caloplaca lactea*

**marmorata** (Bagl.) Frödén, Arup & Söchting Syn.: *Caloplaca marmorata*

**tominii** (Savicz) Frödén, Arup & Söchting Syn.: *Caloplaca tominii*

**XANTHOMENDOZA** S. Y. Kondr. & Kärnefelt

**borealis** (R. Sant. & Poelt) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria borealis* (Söchting et al. 2002)

**concinna** (J. W. Thomson & T. H. Nash) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria concinna* (Söchting et al. 2002)

**fallax** (Hepp ex Arnold) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria fallax* (Söchting et al. 2002)

**fulva** (Hoffm.) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria fulva* (Söchting et al. 2002)

**galericulata** L. Lindblom (Lindblom 2006)

**hasseana** (Räsänen) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria hasseana* (Söchting et al. 2002)

**mendozae** (Räsänen) S. Y. Kondr. & Kärnefelt Syn.: *Xanthoria mendozae* (Lindblom 2004a)

**montana** (L. Lindblom) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria montana* (Söchting et al. 2002)

**oregana** (Gyelnik) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria oregana* (Söchting et al. 2002)

**subramulosa** (Räsänen) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria subramulosa* (Söchting et al. 2002) According to Lindblom (1997), this is a synonym of *X. fulva*

**trachyphylla** (Tuck.) Frödén, Arup & Söchting Syn.: *Caloplaca trachyphylla*, *Placodium elegans* var. *trachyphyllum*

**ulophyllodes** (Räsänen) Söchting, Kärnefelt & S. Y. Kondr. Syn.: *Xanthoria ulophyllodes* (Söchting et al. 2002)

**weberi** (S. Y. Kondr. & Kärnefelt) L. Lindblom (Lindblom 2006) Syn.: *Oxneria weberi*, *Xanthoria wetmorei*

**alfredii** (S. Y. Kondr. & Poelt) Söchting, Kärnefelt & S. Y. Kondr. = North American report is *X. montana*

**rosemarieae** S. Y. Kondr. & Kärnefelt (Lumbsch et al. 2011) = *X. weberi* (Knudsen et al. 2011b)

**XANTHOPARMELIA** (Vainio) Hale

**ahtii** (Essl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004b) Syns.: *Neofuscelia ahtii*, *Parmelia ahtii*

**ajoensis** (T. H. Nash) Egan Syn.: *Parmelia ajoensis*



**amableana** (Gyelnik) Hale (Nash & Elix 2004)  
**angustiphylla** (Gyelnik) Hale  
**arida** Egan & Derstine  
**atticoides** (Essl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004b) Syns.:  
 Neofuscelia atticoides, Parmelia atticoides  
**australasica** D. J. Galloway  
**barbatica** (Elix) Egan  
**brunella** (Essl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004b) Syns.:  
 Neofuscelia brunella, Parmelia brunella  
**californica** Hale  
**camtschadalis** (Ach.) Hale  
**chiricahuensis** (R. A. Anderson & W. A. Weber) O. Blanco, A. Crespo, Elix, D. Hawksw. &  
 Lumbsch (Blanco et al. 2004b) Syns.: Neofuscelia chiricahuensis, Parmelia chiricahuensis  
**chlorochroa** (Tuck.) Hale Syn.: Parmelia chlorochroa  
**coloradoënsis** (Gyelnik) Hale  
**commonii** Elix & T. H. Nash (Elix & Nash 1999)  
**consociata** (Elix) Elix & Johnston (Nash et al. 1998)  
**conspersa** (Ehrh. ex Ach.) Hale Syns.: Parmelia conspersa, P. isidiata  
**cumberlandia** (Gyelnik) Hale Syn.: Parmelia cumberlandia  
**dierythra** (Hale) Hale Syn.: Parmelia dierythra  
**digitiformis** (Elix & P. M. Armstr.) Filson (Nash & Elix 2004)  
**dissensa** (T. H. Nash) Hale Syn.: Parmelia dissensa  
**eganii** Elix & T. H. Nash (Elix & Nash 1999)  
**huachucensis** (T. H. Nash) Egan Syn.: Parmelia huachucensis  
**hypofusca** (Gyelnik) Hodgkinson & Lendemer (Hodgkinson & Lendemer 2011)  
**hypomelaena** (Hale) Hale Syn.: Parmelia hypomelaena  
**idahoensis** Hale  
**incerta** (Kurok. & Filson) Elix & J. Johnst. (Nash & Elix 2004)  
**infrapallida** (Essl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004) Syns.:  
 Neofuscelia infrapallida, Parmelia infrapallida  
**isidiascens** Hale  
**isidiigera** (Müll. Arg.) Elix & J. Johnst. (Nash & Elix 2004)  
**isidiosa** (Müll. Arg.) Elix & Johnston (Nash et al. 1998)  
**joranadia** (T. H. Nash) Hale Syn.: Parmelia joranadia  
**knudsenii** Elix, A. Thell & Söchting (Thell et al. 2009)  
**lavicola** (Gyelnik) Hale Syn.: Parmelia kurokawae  
**lineola** (E. C. Berry) Hale Syn.: Parmelia lineola  
**lipochlorochroa** Hale & Elix  
**lobulatella** T. H. Nash & Elix (Nash & Elix 2004)  
**loxodes** (Nyl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004b) Syns.:  
 Neofuscelia loxodes, Parmelia isidiotyla, P. loxodes  
**maricopensis** T. H. Nash & Elix  
**mexicana** (Gyelnik) Hale Syn.: Parmelia mexicana  
**moctezumensis** T. H. Nash  
**montanensis** Hale  
**monticola** (J. P. Dey) Hale Syn.: Parmelia monticola  
**mougeotii** (Schaerer) Hale Syn.: Parmelia mougeotii  
**neochlorochroa** Hale  
**neocongensis** (Hale) Hale (Nash et al. 1998)  
**neoconspersa** (Gyelnik) Hale Syn.: Parmelia neoconspersa  
**neorimalis** (Elix & P. M. Armstr.) Elix & T. H. Nash (Nash & Elix 2004)  
**neotaractica** Hale  
**neowyomingica** Hale  
**nigrolavicola** T. H. Nash & Elix (Nash & Elix 2004)  
**nigropsoromifera** (T. H. Nash) Egan Syn.: Parmelia nigropsoromifera  
**nigroweberi** T. H. Nash & Elix (Nash & Elix 2004)

**norchlorochroa** Hale  
**norhypopsila** Hale  
**novomexicana** (Gyelnik) Hale Syn.: *Parmelia novomexicana*, *P. tuberculata*, *P. arseneana*  
**occidentalis** (Essl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004b) Syn.:  
*Neofuscelia occidentalis*, *Parmelia occidentalis*  
**oleosa** (Elix & P. M. Armstrong) Elix & T. H. Nash  
**piedmontensis** (Hale) Hale Syn.: *Parmelia piedmontensis*  
**planilobata** (Gyelnik) Hale  
**plittii** (Gyelnik) Hale Syn.: *Parmelia plittii*  
**pseudocongensis** Hale (Nash & Elix 2004)  
**psoromifera** (Kurok.) Hale Syn.: *Parmelia psoromifera*  
**pustulosa** (Essl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004b) Syn.:  
*Neofuscelia pustulosa*, *Parmelia pustulosa*  
**schmidtii** Hale  
**standaertii** (Gyelnik) Hale (Nash & Elix 2004)  
**stenophylla** (Ach.) Ahti & D. Hawksw. Syn.: *Parmelia stenophylla* (Ahti & Hawksworth 2005)  
**stenophylloides** (Müll. Arg.) Hale  
**subcumberlandia** Elix & T. H. Nash (Nash & Elix 2004)  
**subdecipiens** (Vainio) Hale Syn.: *Parmelia subdecipiens*  
**subhosseana** (Essl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004b) Syn.:  
*Neofuscelia subhosseana*, *Parmelia subhosseana*  
**subplittii** Hale (Nash & Elix 2004)  
**subramigera** (Gyelnik) Hale Syn.: *Parmelia subramigera*  
**substenophylloides** Hale  
**subtasmanica** Elix & T. H. Nash (Nash & Elix 2004)  
**tegeta** Elix & Johnston (Nash et al. 1998)  
**tinctina** (Maheu & Gillet) Hale (Nash & Elix 2004)  
**tuberculata** (Gyelnik) T. H. Nash & Elix (Nash & Elix 2004)  
**tuckeriana** Elix & T. H. Nash (Nash & Elix 2004)  
**tucsonensis** (T. H. Nash) Egan Syn.: *Parmelia tucsonensis*  
**vagans** (Nyl.) Hale  
**verruculifera** (Nyl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch (Blanco et al. 2004b) Syn.:  
*Neofuscelia verruculifera*, *Parmelia verruculifera*  
**viriduloumbrina** (Gyelnik) Lendemer (Lendemer 2005b)  
**weberi** (Hale) Hale Syn.: *Parmelia weberi*  
**wyomingica** (Gyelnik) Hale Syn.: *Parmelia wyomingica*  
*arseneana* (Gyelnik) Hale = *X. novomexicana*  
*centrifuga* (L.) Hale = *Arctoparmelia centrifuga*  
*congensis* (Stein) Hale Syn.: *Parmelia congensis*, but only known as far north as Mexico  
*hypopsila* (Müll. Arg.) Hale = misidentification for North America; most specimens are *X. angustiphylla*  
*incurva* (Pers.) Hale = *Arctoparmelia incurva*  
*ioanis-simae* (Gyelnik) Hale = *X. taractica*, but see note below  
*kurokawae* (Hale) Hale = *X. lavicola*  
*lecanorica* (Hale) Hale Syn.: *Parmelia lecanorica* Not in North America  
*separata* (Th. Fr.) Hale = *Arctoparmelia separata*  
*somloënsis* (Gyelnik) Hale = *Xanthoparmelia stenophylla*  
*subcentrifuga* (Oxner) Hale = *Arctoparmelia subcentrifuga*  
*subconspersa* (Nyl.) Hale = *Flavoparmelia rutidota*  
*taractica* (Kremp.) Hale = known from Mexico, but misidentification for our area; western N. A. specimens are mostly *X. coloradoensis* and eastern N. A. specimens are mostly *X. viriduloumbrina*  
*tasmanica* (Hooker f. & Taylor) Hale North American reports are *X. hypofusca*  
*tinctina* (Maheu & A. Gillet) Hale Syn.: *Parmelia tinctina* Not in North America

XANTHOPSORA Gotth. Schneider & W. A. Weber = XANTHOPSORELLA  
*texana* (W. A. Weber) Gotth. Schneider & W. A. Weber = *Xanthopsorella texana*

**XANTHOPSORELLA** Kalb & Hafellner

**texana** (W. A. Weber) Kalb & Hafellner Syns.: *Xanthopsora texana*, *Psora texana*, *Lecidea texana*

**XANTHORIA** (Fr.) Th. Fr.

**parietina** (L.) Th. Fr. Syn.: *Teloschistes parietinus*

**tibellii** S. Y. Kondr. & Kärnefelt (Kondratyuk & Kärnefelt 2003a)

**alaskana** J. W. Thomson = *Polycauliona polycarpa* (Lindblom 1997)

**alfredii** S. Y. Kondr. & Poelt (Kondratyuk & Poelt 1997) = North American report is *Xanthomendoza montana* (Lindblom 1997)

**ascendens** S. Y. Kondr. (Lindblom 2004b) = *Polycauliona ascendens*

**borealis** R. Sant. & Poelt = *Xanthomendoza borealis*

**candelaria** (L.) Th. Fr. = *Polycauliona candelaria*

**candelaria** var. **finmarkica** (Ach.) Hillmann = *Polycauliona candelaria*

**concinna** J. W. Thomson & T. H. Nash = *Xanthomendoza concinna*

**elegans** (Link) Th. Fr. = *Rusavskia elegans*

**elegans** var. **splendens** (Darb.) M. S. Christ. ex Poelt = *Rusavskia elegans*

**fallax** (Hepp ex Arnold) Arnold = *Xanthomendoza fallax*

**fulva** (Hoffm.) Poelt & Petutschnig (Esslinger & Egan 1995) = *Xanthomendoza fulva*

**hasseana** Räsänen = *Xanthomendoza hasseana*

**lobulata** (Flörke) B. de Lesd. = *Calogaya lobulata*

**mendozae** Räsänen = *Xanthomendoza mendozae*

**montana** L. Lindblom (Lindblom 1997) = *Xanthomendoza montana*

**oregana** Gyelnik (Lindblom 1997) = *Xanthomendoza oregana*

**papillifera** (Vainio) Poelt = *Rusavskia papillifera*

**pollinarioides** L. Lindblom & D. M. Wright (Lindblom 2004b) = *Polycauliona pollinarioides*

**polycarpa** (Hoffm.) Th. Fr. ex Rieber = *Polycauliona polycarpa*

**ramulosa** (Tuck.) Herre = *Polycauliona polycarpa* (Lindblom 1997)

**sorediata** (Vainio) Poelt = *Rusavskia sorediata*

**subramulosa** Räsänen = *Xanthomendoza subramulosa*

**tenax** L. Lindblom (1997) = *Polycauliona tenax*

**tenuiloba** L. Lindblom (Lindblom 2004b) = *Polycauliona tenuiloba*

**ulophyllodes** Räsänen = *Xanthomendoza ulophyllodes*

**weberi** S. Y. Kondr. & Kärnefelt = *Xanthomendoza weberi*

**wetmorei** S. Y. Kondr. & Kärnefelt (Kondratyuk & Kärnefelt 2003a) = *Xanthomendoza weberi* (Knudsen et al. 2011b)

**XENONECTRIELLA** Weese

\***lutescens** (Arnold) Weese (Zhurbenko 2009a)

**XEROTREMA** Sherwood & Coppins

<sup>+</sup>**megalospora** Sherwood & Coppins

**XYLEBORUS** R. C. Harris & Ladd (Harris & Ladd 2007)

**nigricans** R. C. Harris & Lendemer (Lendemer & Harris 2015b)

**sporodochifer** R. C. Harris & Ladd (Harris & Ladd 2007)

**XYLOGRAPHA** (Fr.) Fr.

**bjoerkii** T. Sprib. (Spribille et al. 2014a)

**carneopallida** (Räsänen) T. Sprib. (Spribille et al. 2014a)

**crassithallia** B. D. Ryan & T. H. Nash (Ryan 2004b) Possibly a synonym of *X. difformis* (Spribille et al. 2014a)

**difformis** (Vainio) Vainio (Spribille et al. 2014a)

**disseminata** Willey

**erratica** T. Sprib. (Spribille et al. 2014a)

**hians** Tuck.



**opegraphella** Nyl.  
**pallens** (Nyl.) Malmgren (Spribille et al. 2014a)  
**parallela** (Ach.) Fr.  
**rubescens** Räsänen (Spribille et al. 2014a)  
**schofieldii** T. Sprib. (Spribille et al. 2014a)  
**septentrionalis** T. Sprib. (Spribille et al. 2014a)  
**soralifera** Holien & Tønsberg (Holien & Tønsberg 2008)  
**stenospora** T. Sprib. & Resl (Spribille et al. 2014a)  
**trunciseda** (Th. Fr.) Minks ex Redinger  
**vermicularis** T. Sprib. (Spribille et al. 2014a)  
**vitiligo** (Ach.) J. R. Laundon  
 abietina (Pers.) Zahlbr. = *X. parallela*  
 micrographa G. Merr. = *X. hians*  
 pruinodisca B. D. Ryan & T. H. Nash (Ryan 2004b) = *X. difformis* (Spribille et al. 2014a)  
 spilomatica (Anzi) Th. Fr. = *X. vitiligo*

**XYLOPSORA** Bendiksby & Timdal (Bendiksby & Timdal 2013)  
**friesii** (Ach.) Bendiksby & Timdal Syn.: *Hypocenomyce friesii*, *Lecidea friesii*, *Psora friesii*

**XYLOSCHISTES** Vainio ex Zahlbr  
**platytropa** (Nyl.) Vainio (Spribille & Björk 2008)

**ZAHLBRUCKNERELLA** Herre  
**calcarea** (Herre) Herre  
**californica** Henssen  
**fabispora** Henssen

**ZAMENHOFIA** Clauzade & Cl. Roux = **PORINA**  
 hibernica (P. James & Swinscow) Clauzade & Cl. Roux = *Porina hibernica*

**ZWACKHIA** Körber  
**viridis** (Pers. ex Ach.) Poetsch & Schied. (Ertz & Tehler 2011) Syn.: *Opegrapha viridis*

**ZWACKHIOMYCES** Grube & Hafellner  
 \***arenicola** R. C. Harris (Harris 1995a)  
 \***berengerianus** (Arnold) Grube & Triebel  
 \***cladoniae** (C. W. Dodge) Diederich (Alstrup & Cole 1998)  
 \***coepulonus** (Norman) Grube & R. Sant. (Goward et al. 1996)  
 \***diederichii** D. Hawksw. & Iturr. (Zhurbenko & Pino-Bodas 2017)  
 \***dispersus** (J. Lahm ex Körber) Triebel & Grube Syn.: *Pharcidia dispersa*  
 \***euplocinus** Hafellner, Grube & Egan  
 \***macrosporus** Alstrup & Olech (Zhurbenko 2013)

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## Studies in Lichens and Lichenicolous Fungi – No. 21: Notes on *Lambliella caeca* and *L. fuscusora*

JAMES C. LENDEMER<sup>1</sup> AND IRWIN M. BRODO<sup>2</sup>

**ABSTRACT.** – *Lambliella caeca* is reported from the southern Appalachian Mountains of eastern North America (Georgia, North Carolina, South Carolina) extending its range considerably. The recent report of *Lambliella fuscusora* from North America is shown to belong to *Japewiella dollypartoniana*, which is a new record for Canada and Ontario both for the species and the genus.

**KEYWORDS.** – Eagle Hill, *Lecidea*, norstictic acid, *Rimularia*, sterile lichens, Trapeliaceae.

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### INTRODUCTION

Although originally described by Hertel (1984) to accommodate the Southern Hemisphere taxon *Lecidea psephota* Tuck., *Lambliella* Hertel was subsequently placed in synonymy with *Rimularia* Nyl. by Hertel (1987) until it was resurrected and expanded by Resl et al. (2015) based on study of morphological and molecular data. To date eight species of *Lambliella* are considered to occur in North America (Esslinger 2016), including *L. arenosa* McCune & Lumbsch that was described from the Pacific Northwest (McCune & Lumbsch 2017) and *L. fuscusora* (Muhr & Tønsberg) M. Westb. & Resl that was recently reported from the northeastern United States and Canada (Seaward et al. 2017). The renewed focus on *Lambliella* led us to search for additional material of the species and this resulted in the notes presented here.

### MATERIALS AND METHODS

This study is based on specimens deposited in the herbaria of the Canadian Museum of Nature (CANL) and New York Botanical Garden (NY). Georeferenced voucher data for all NY specimens examined can be accessed via the C.V. Virtual Herbarium at NY (<http://sweetgum.nybg.org/science/vh/>). Specimens were initially studied dry using an Olympus SZ-STB dissecting microscope. Microscopic morphology and anatomy was then studied using an Olympus BX53 compound microscope and sections prepared by hand with a razor blade, and mounted in water or iodine. Chemistry was studied using standard spot tests (K, C, KC, P, UV) following Brodo et al. (2001) and supplemented by Thin Layer Chromatography (TLC) using Solvents A and C following Culberson and Kristinsson (1970) but as modified for the peanut butter jar by Lendemer (2011).

### I: RANGE EXPANSION FOR *LAMBIELLA CAECA* INTO THE SOUTHERN APPALACHIANS

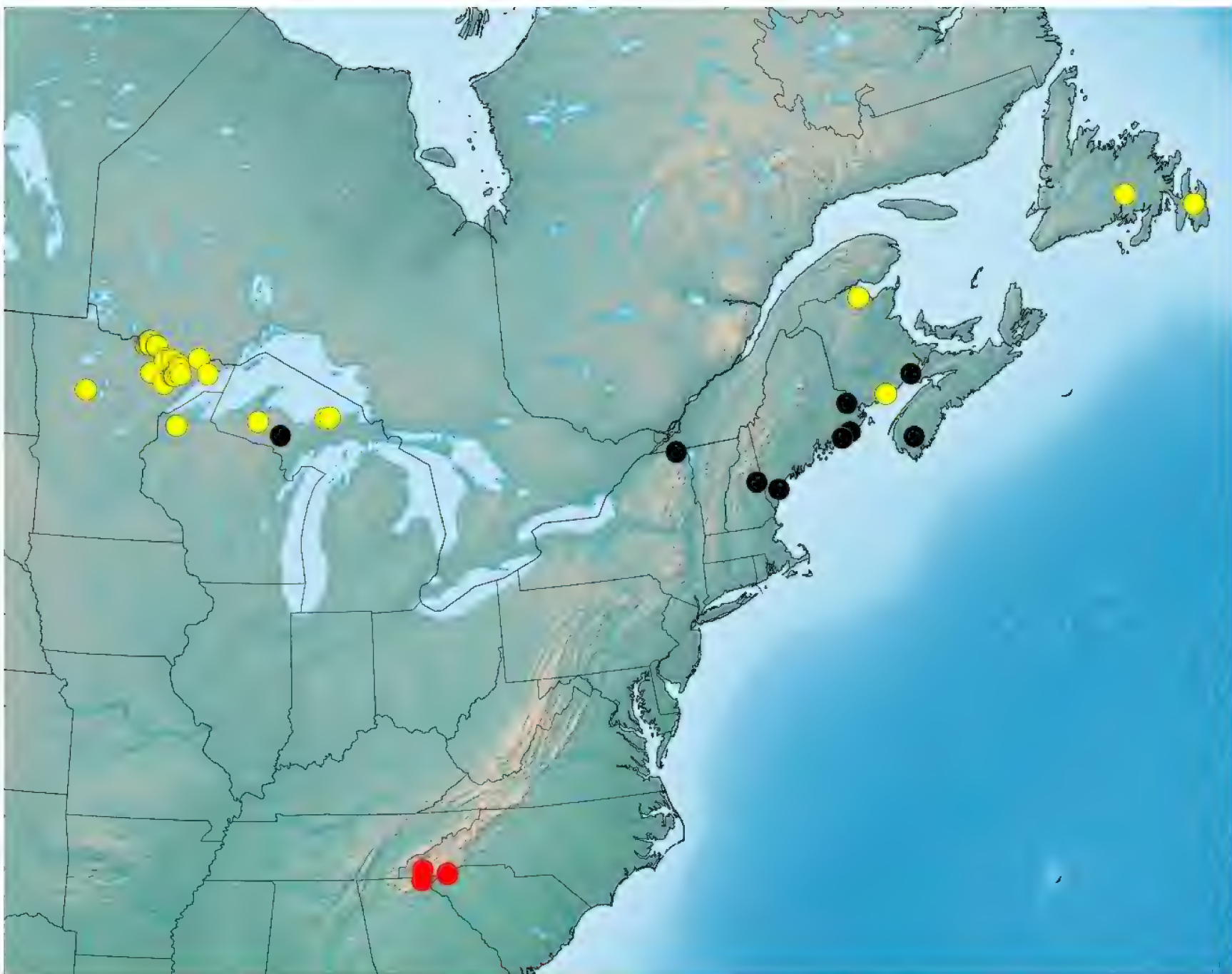
*Lambliella caeca* (J. Lowe) Resl & T. Sprib. is an inconspicuous corticolous member of the genus that grows on the bark and branches of conifers or hardwood trees with acidic bark (Rambold & Printzen 1992). The species was treated in detail by Rambold and Printzen (1992) who reported it from scattered localities in northeastern North America and the adjacent Great Lakes Region (Fig. 1). Subsequently, populations from interior northwestern North America were also referred to *L. caeca* (Resl et al. 2015), although their exact taxonomic identity remains unsettled (McCune & Lumbsch 2017). Recently, while ex-

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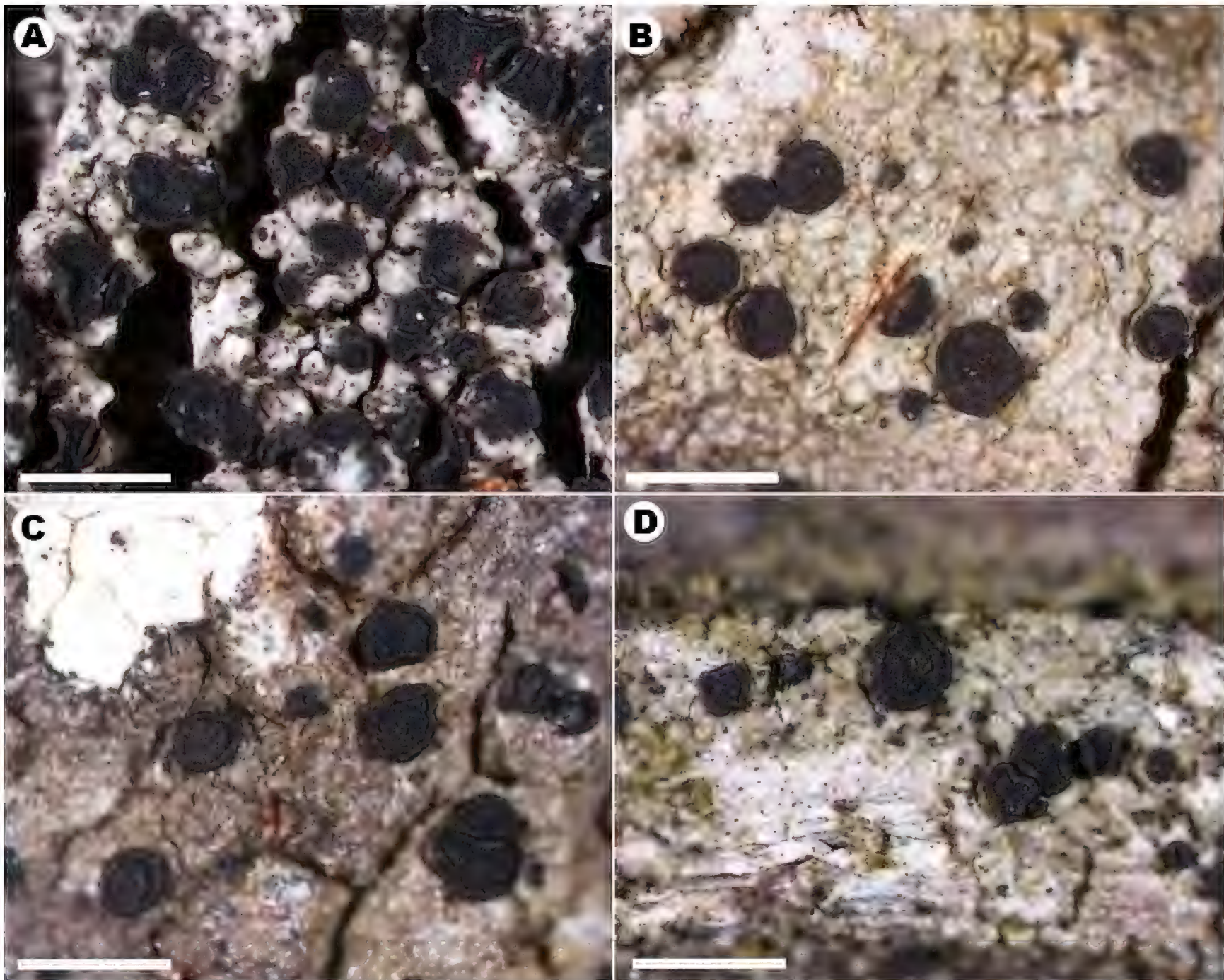


**Figure 1.** Geographic distribution of *Lambiella caeca* in eastern North America illustrating the previously documented distribution (yellow dots = records from CNALH, black dots = records from CANL and NY) and the newly documented populations herein (red dots).

aming undetermined crustose lichens from the southern Appalachians at NY, the first author encountered material seemingly referable to *L. caeca* from that region (Fig. 2). This was followed by a search of undetermined material filed in various genera such as *Lecidea* s.l. and *Rimularia*, which resulted in the discovery of additional collections from several locations in the southern Appalachians (Fig. 1). Here we expand the distribution of *L. caeca* southward from its currently known extent in eastern North America such that it includes middle and high elevations of the southern Appalachian Mountains (Fig. 1). The species was found growing on the branches of conifers as well as ericaceous shrubs (e.g., *Rhododendron*). Given the frequency of such substrates in the southern Appalachians, coupled with the considerable geographic distances between the occurrences, it seems likely that the species is more widespread in the region and has simply been overlooked because of its small size and superficial resemblance to other more common crustose lichens such as *Amandinea punctata* (Hoffm.) Coppins & Scheid. or *Catillaria nigroclavata* (Nyl.) Schul., both of which can be easily distinguished by not having simple, hyaline ascospores.

*Specimens examined.* – **CANADA. NEW BRUNSWICK.** CHARLOTTE CO.: Saint James Parish, Grand Falls Flowage on St. Croix River (= Grand Falls Dam Recreation Area), 30 Apr. 2011, on *Betula* branch, R.C. Harris 56658 (NY). **NOVA SCOTIA.** SHELBURNE CO.: Tobeatic Wilderness Area, Indian Fields, 8 May 1999, on *Pinus* twigs, W.R. Buck 35711 (NY), W.R. Buck 35731 (NY), P.F. May 4899A (NY). **U.S.A. GEORGIA.** TOWNS/RABUN CO.: Dick's Creek Gap, ~17.1 mi W of Clayton, 11 Jun. 1981, on *Oxydendrum*, R.C. Harris 13875 (NY). **MAINE.** WASHINGTON CO.: Steele Meadow Brook Heath, E of Jonesport Elementary School parking lot, 30 Aug. 2015, on *Larix* twigs, W.R. Buck 63476 (NY); Dyer Neck, Eagle Hill, vicinity of Humboldt Field Research Institute, 28 Jul. 2006, on *Pinus*





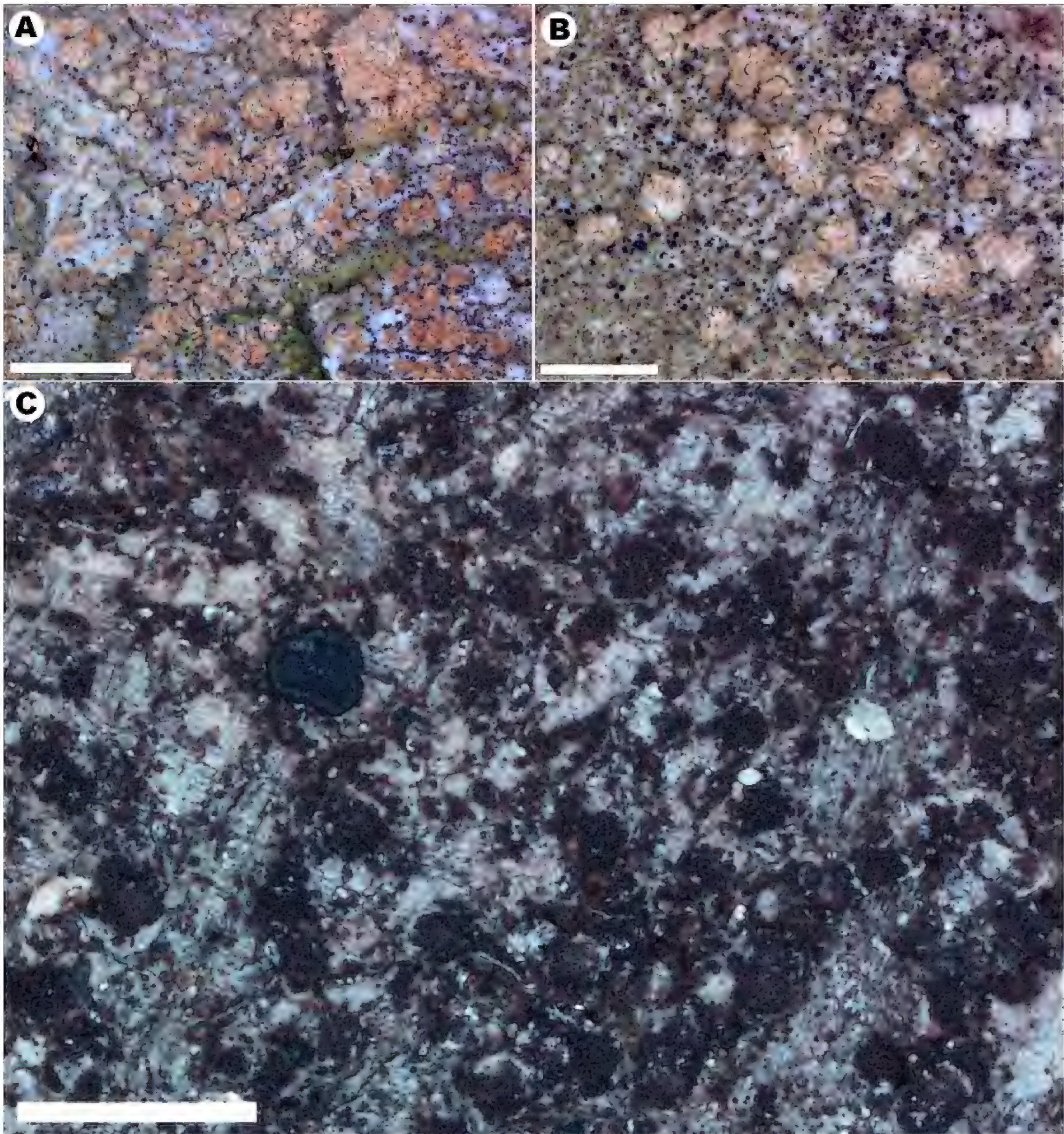
**Figure 2.** Gross morphology of *Lambliella caeca* from northeastern North America (A, *Buck* 42521) and southern Appalachians (B, *Harris* 13875; C, *Harris* 24692; D, *Harris* 24803A). Scales = 1.0 mm.

twig, *R.C. Harris* 53094 (NY). YORK CO.: Saco Heath Preserve, NE of ME 112, 14 Sept. 2002, on bark, *W.R. Buck* 42521 (NY). **MICHIGAN.** DICKINSON CO.: along road into O'Neil Lake Campground, NNW of Ralph, 10 Sept. 1971, on *Pinus*, *R.C. Harris* 7379 (NY). **NEW HAMPSHIRE.** CARROLL CO.: West Branch Pine Barrens Preserve, along NH 41, 19 Sept. 1999, on *Pinus* cone, *R.C. Harris* 43230 (NY). **NEW YORK.** CLINTON CO.: Gadway Sandstone Pavement Barrens, 20 Oct. 1996, on dead *Pinus* twig, *W.R. Buck* 30887 (NY). **NORTH CAROLINA.** MACON CO.: Wayah Bald, ca. 8 mi W of Franklin, 26 Sept. 1989, on bark, *R.C. Harris* 24692 (NY). **SOUTH CAROLINA.** PICKENS CO.: along Lookout Trail to Eastatoe Creek National Heritage Preserve, 27 Sept. 1989, on *Kalmia*, *R.C. Harris* 24803A (NY); along Eastatoe Creek ca. 2.5 mi SW of town of Rocky Bottom, 27 Sept. 1989, on *Pinus* branch, *R.C. Harris* 24763A (NY).

## II: *LAMBIELLA FUSCOSORA* SHOULD BE REMOVED FROM THE NORTH AMERICAN CHECKLIST

In a recent paper documenting the lichens in and around the Eagle Hill Institute, Steuben, Maine (Seaward et al. 2017), *Lambliella fuscusora* was reported as new to North America based on sterile material from nearby Eagle Hill in the United States, and from Ontario in Canada. *Lambliella fuscusora* is a distinctive corticolous, sorediate, crustose lichen that produces norstictic acid and has a white-gray thallus with small, discrete, soralia that contain dark brownish-black soredia (Muhr & Tønsberg 1989). The species was originally described from Norway as *Rimularia fuscusora* (Muhr & Tønsberg 1989) and subsequently reported from northern Asia (Davydov & Printzen 2012) as well as Iceland (Kristinsson et al. 2014).





**Figure 3.** Comparison of specimens reported as *Lambiella fuscosora* but referable to *Japewiella dollypartoniana* (A, Brodo 31344; B, Sharnoff 1118.06) to isotype of *L. fuscosora* (Muhr 7540). Scales = 1.0 mm.

Given its broad geographic distribution in northern Europe and Asia, occurrence of the species in North America would not be unexpected. However, re-examination of the specimens that served as the basis of the report of *Lambiella fuscosora* by Seaward et al. (2017) revealed that they represented *Japewiella dollypartoniana* J.L. Allen & Lendemer, another sorediate crustose lichen that produces norstictic acid (Allen & Lendemer 2015). Although they are chemically similar, *J. dollypartoniana* can be distinguished from *L. fuscosora* by its soralia that are lighter in color (greenish-gray to reddish-brown vs. dark brownish-black in *L. fuscosora*) and the irregular presence of reddish pigments in the thallus and soralia (which are absent in *L. fuscosora*) (Fig. 3). Based on the above, *L. fuscosora* should be excluded from the North American Checklist (Esslinger 2016). On the other hand, *J. dollypartoniana* is new for Canada and Ontario.



*Selected specimens of Japewiella dollypartoniana examined.* – **CANADA. ONTARIO.** ALGOMA DISTRICT: Lake Superior Provincial Park, Sand River Trail, Hwy. 17 by waterfalls, 47°26'N, 84°44'W, 14 July 1993, on dead *Betula papyrifera*, S. Sharnoff & S.D. Sharnoff 1118.06 (CANL). **U.S.A. CONNECTICUT.** WINDHAM CO.: Town of Windham, Windham Bog, 20 Sept. 2009, on *Chamaecyparis* twigs, R.C. Harris 55734 (NY). **GEORGIA.** UNION CO.: Chattahoochee National Forest, along Duncan Ridge Trail from Wildcat Gap to Coosa Bald, 6 Oct. 1998, on bark, W.R. Buck 34861 (NY). **MAINE.** HANCOCK CO.: Black Mountain Trail, just S of Tunk Lake, 12 Aug 2003, on *Picea rubens*, I.M. Brodo 31344 (CANL); Donnell Pond Maine Public Reserve Lands, Black Mountain, East Black Peak, 5 Jun. 2012, on *Picea* branch, J.C. Lendemer 32331 & A. Moroz (NY). WASHINGTON CO.: Dyer Neck, Eagle Kill, 24 Jul. 2006, on *Pinus*, R.C. Harris 52843 (NY). **MICHIGAN.** CHEBOYGAN CO.: Gaylord State Forest, E of Waveland Rd., 3.4 mi N of jct w/ MI-68, 19 May 2015, on dead *Abies*, D. Waters 1362 (NY). CHIPPEWA CO.: Hiawatha National Forest, along FSR3343 1.5 mi E of jct w/ MI-123, 22 May 2015, on *Acer*, J.C. Lendemer 45239A (NY). **NEW JERSEY.** BURLINGTON CO.: Bass River State Park, along Dans Bridge Rd. E of Lake Absegami, 12 May 2007, on *Chamaecyparis*, J.C. Lendemer 8914 & A. Moroz (NY). **NEW YORK.** SUFFOLK CO.: Cranberry Bog Nature Preserve, near Cedar Pond, 20 Sept. 1986, on *Chamaecyparis*, R.C. Harris 19438 (NY). **NORTH CAROLINA.** BUNCOMBE CO.: Blue Ridge Parkway, S face of Potato Knob, 2 Oct. 2014, on *Sorbus*, J.C. Lendemer 44218 & J.L. Allen (NY). GRAHAM CO.: Nantahala National Forest, Joyce Kilmer-Slickrock Wilderness, vicinity of summit of Hangover Mountain, 30 Sept. 2014, on *Rhododendron*, J.L. Allen 4018 (NY, holotype). HAYWOOD CO.: Great Smoky Mountains National Park, summit of Purchase Knob, 30 Jun. 2011, on hardwood bark, J.C. Lendemer 29341 & N. Davoodian (NY). **OHIO.** ADAMS CO.: Edge of Appalachia Preserve, just E of Eulett Center, 25 Apr. 2015, on *Juniperus* branch, J.C. Lendemer 44509 (NY). **PENNSYLVANIA.** FAYETTE CO.: Ohiopyle State Park, along Great Allegheny Passage paralleling the Youghiogheny River, 28 Apr. 2012, on fallen branch, R.C. Harris 57410 (NY). FRANKLIN CO.: Michaux State Forest, Rocky Mountain, PA233 at bridge over Rocky Mountain Run, 1 Jun. 2009, on *Acer*, J.C. Lendemer 18152 (NY). TIOGA CO.: Tioga State Forest, W-facing slopes of S end of Callahan Hill, E shore of Slide Island Run, 14 May 2009, on *Pinus* branch, J.C. Lendemer 16891 (NY). UNION CO.: Bald Eagle State Forest, The Hook Natural Area, S of Jones Mountain Rd., 13 Sept. 2010, on *Acer*, J.C. Lendemer 25252 (NY). **TENNESSEE.** BLOUNT CO.: Great Smoky Mountains National Park, Gregory Bald Trail, Sheep Pen Gap to Gregory Bald, 12 Oct. 2010, on *Acer*, J.C. Lendemer et al. 26671 (NY). COCKE CO.: Great Smoky Mountains National Park, summit of Mt. Cammerer, 21 Oct. 2012, on *Rhododendron*, J.C. Lendemer 33400 & A. Moroz (NY). **VERMONT.** CALEDONIA CO.: Town of Wheelock, Wheelock Farm, 22 Oct. 2010, on *Alnus*, J.C. Lendemer 27579 & M. Sundue (NY). **WEST VIRGINIA.** Tucker Co., Blackwater Falls State Park, Pendleton Point Picnic Shelter, 3 Jun. 2014, on *Populus*, W.R. Buck 63171 (NY).

*Specimen of Lambiella fuscusora examined [Isotype].* – **SWEDEN.** VÄSTERBOTTEN PROV.: Skellefteå par., c. 3 km NE of Mt. Stora Blåbergsliden, by the small stream Djupgrovbäcken. 65°40'N, 20°21'E. Alt. 185 m. On *Alnus incana* in a rather shaded situation. Lars-Erik Muhr 7540, 8 Aug. 1984. (CANL).

#### ACKNOWLEDGEMENTS

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# New and interesting lichens and allied fungi from British Columbia, Nova Scotia, Nunavut, Ontario, Prince Edward Island, and Quebec, Canada

RICHARD TROY McMULLIN<sup>1</sup>

**ABSTRACT.** – Ongoing biogeographical and ecological studies of lichens and allied fungi in Canada have resulted in range extensions throughout the country that are documented here. Four species are reported new to the Territory of Nunavut: *Acarospora schleicheri*, *Buellia ocellata*, *Melanelixia subaurifera*, and *Rhizocarpon lecanorinum*. New records are reported for five provinces: British Columbia (*Microcalicium conversum*, *Umbilicaria arctica*), Nova Scotia (*Arthonia hypobela*, *A. vinosa*, *Micarea misella*, and *Sarea difformis*), Ontario (*Lecanora carpinea*, *Microcalicium conversum*, *Sphaerophorous fragilis*, and *Umbilicaria phaea* var. *phaea*), Prince Edward Island (*Ropalospora viridis*), and Quebec (*Candelariella lutella*, *Microcalicium arenarium*, and *Sclerophora peronella*). New records representing major range extensions are reported for: *Psora globifera*, *S. peronella*, and *Xanthomendoza weberi*. *Pilophorus fibula* is also reinstated to the Ontario lichen list.

**KEYWORDS.** – Biogeography, Canadian biodiversity, species at risk, calicioids.

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## INTRODUCTION

The rich history of lichen collecting in Canada dates back to the 1700's and has been summarized by Goward et al. (1998). Since 1998, however, the results of many lichen collection efforts have been published which include numerous new provincial and national records. These include studies in British Columbia (Björk et al. 2009; Spribille et al. 2009), Manitoba (Piercey-Normore et al. 2016), Newfoundland and Labrador (McCarthy et al. 2015; McMullin & Aresenault 2016; McMullin & Wiersma 2017), Nova Scotia (Anderson 2014; McMullin et al. 2008; McMullin 2009), Ontario (Brodo et al. 2013; McMullin & Lendemer 2013, 2016; McMullin et al. 2015), Prince Edward Island (McMullin et al. 2012; McMullin 2015), Quebec (Freebury 2011, McMullin et al. 2017), Saskatchewan (Freebury 2014), and monographs that contributed new records to several provinces (e.g., Lendemer 2013, Sheard 2010).

During ongoing biogeographical and ecological studies of the lichen biota in Canada, I have compiled new provincial records and records of uncommon species that represent major range extensions. These records are presented here along with identification characters, images, and distribution maps.

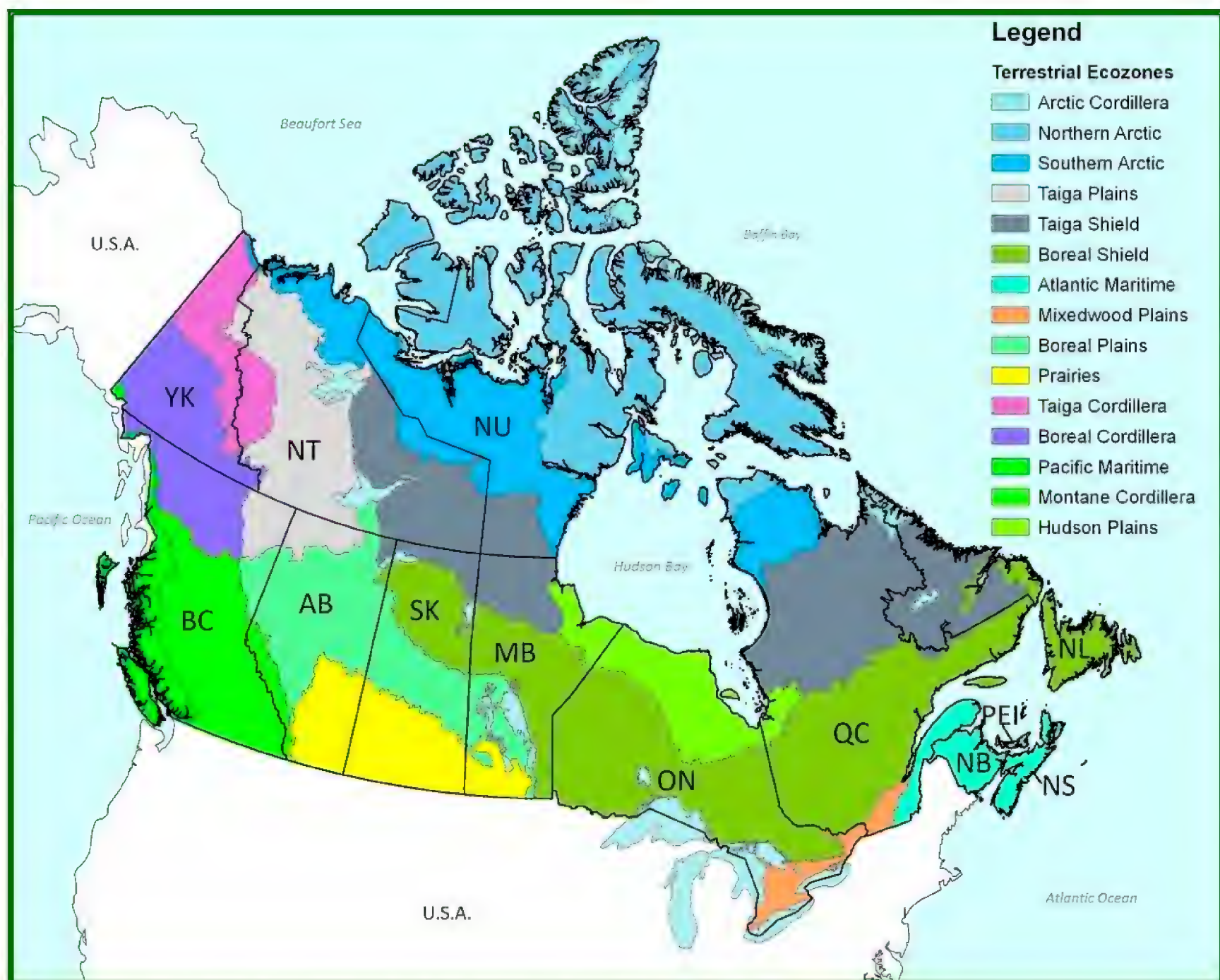
## MATERIALS AND METHODS

**Study Area.** – Canada is the second largest country in area in the world (9,984,670 km<sup>2</sup>), but has a relatively small population (36,708,083 people) (Statistics Canada 2016, World Atlas 2017). It is divided into three territories (Northwest Territory, Nunavut, and the Yukon; Fig. 1), ten provinces (Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Nova Scotia, Ontario, Prince Edward Island, Quebec and Saskatchewan; Fig. 1), 15 terrestrial ecosystems (Fig. 1), and 12 forest regions (Fig. 2). This diverse landscape is inhabited by approximately 2,550 lichens and allied fungi (based on unpublished national lists compiled by I.M. Brodo, C. Deduke, C.E. Freebury, and J. Marsh).

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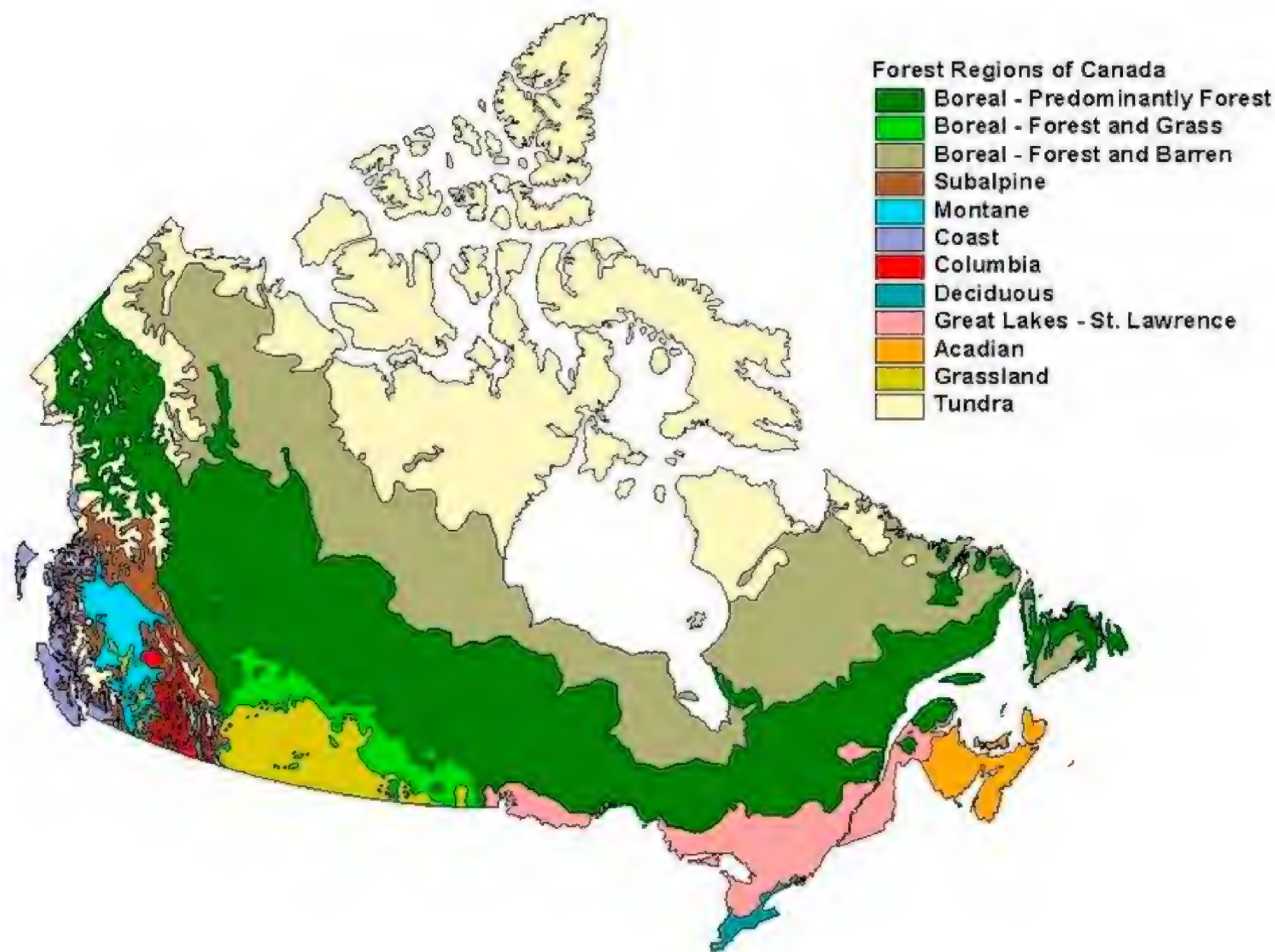


**Figure 1.** The 15 terrestrial ecozones in Canada (Ecological Stratification Working Group 1995). Provincial acronyms: **AB** = Alberta, **BC** = British Columbia, **MB** = Manitoba, **NB** = New Brunswick, **NL** = Newfoundland and Labrador, **NS** = Nova Scotia, **ON** = Ontario, **PEI** = Prince Edward Island, **QC** = Quebec, and **SK** = Saskatchewan. Territorial acronyms: **NT** = Northwest Territory, **NU** = Nunavut, and **YK** = Yukon.

*Voucher identification and deposition.* – Specimens were identified using chemical spot tests, microscopy, and an ultraviolet light chamber, following Brodo et al. (2001). Thin-layer chromatography was used to assess secondary metabolites following Culberson and Kristinsson (1970) and Orange et al. (2001) in solvents A, B', and C. Specimens from the following herbaria were studied: Biodiversity Institute of Ontario Herbarium (OAC) at the University of Guelph, Canadian Museum of Nature (CANL), New Brunswick Museum (NBM), and the New York Botanical Garden (NY).

*Distribution data.* – Summary distribution maps are provided for species discussed herein and data used to generate these maps were obtained from six databases: 1) Canadensys, 2) Canadian Museum of Nature, 3) Consortium of North American Lichen Herbaria (contains digitized records from 90 herbaria), 4) Biodiversity Institute of Ontario, 5) Global Biodiversity Information Facility, and 6) the New York Botanical Garden; and a review of relevant literature for each species (e.g., monographs of the genera). Maps were produced with SimpleMappr (Shorthouse 2010).





**Figure 2.** The 12 forest regions of Canada (Rowe 1972).

## RESULTS AND DISCUSSION

Range extensions within Canada are reported for 20 species. Four species are newly reported to the Territory of Nunavut: *Acarospora schleicheri*, *Buellia ocellata*, *Melanelixia subaurifera*, and *Rhizocarpon lecanorinum*. New records are reported for five provinces: British Columbia (*Microcalicium conversum*, *Umbilicaria arctica*), Nova Scotia (*Arthonia hypobela*, *A. vinosa*, *Micarea misella*, and *Sarea difformis*), Ontario (*Lecanora carpinea*, *M. conversum*, *Sphaerophorous fragilis*, and *Umbilicaria phaea* var. *phaea*), Prince Edward Island (*Ropalospora viridis*), and Quebec (*Candelariella lutella*, *Microcalicium arenarium*, and *Sclerophora peronella*). New range extensions are reported for: *Psora globifera*, *S. peronella*, and *Xanthomendoza weberi*. *Pilophorus fibula* is reinstated to the Ontario lichen list. An account of each species is provided below together with citations of relevant vouchers that were studied.

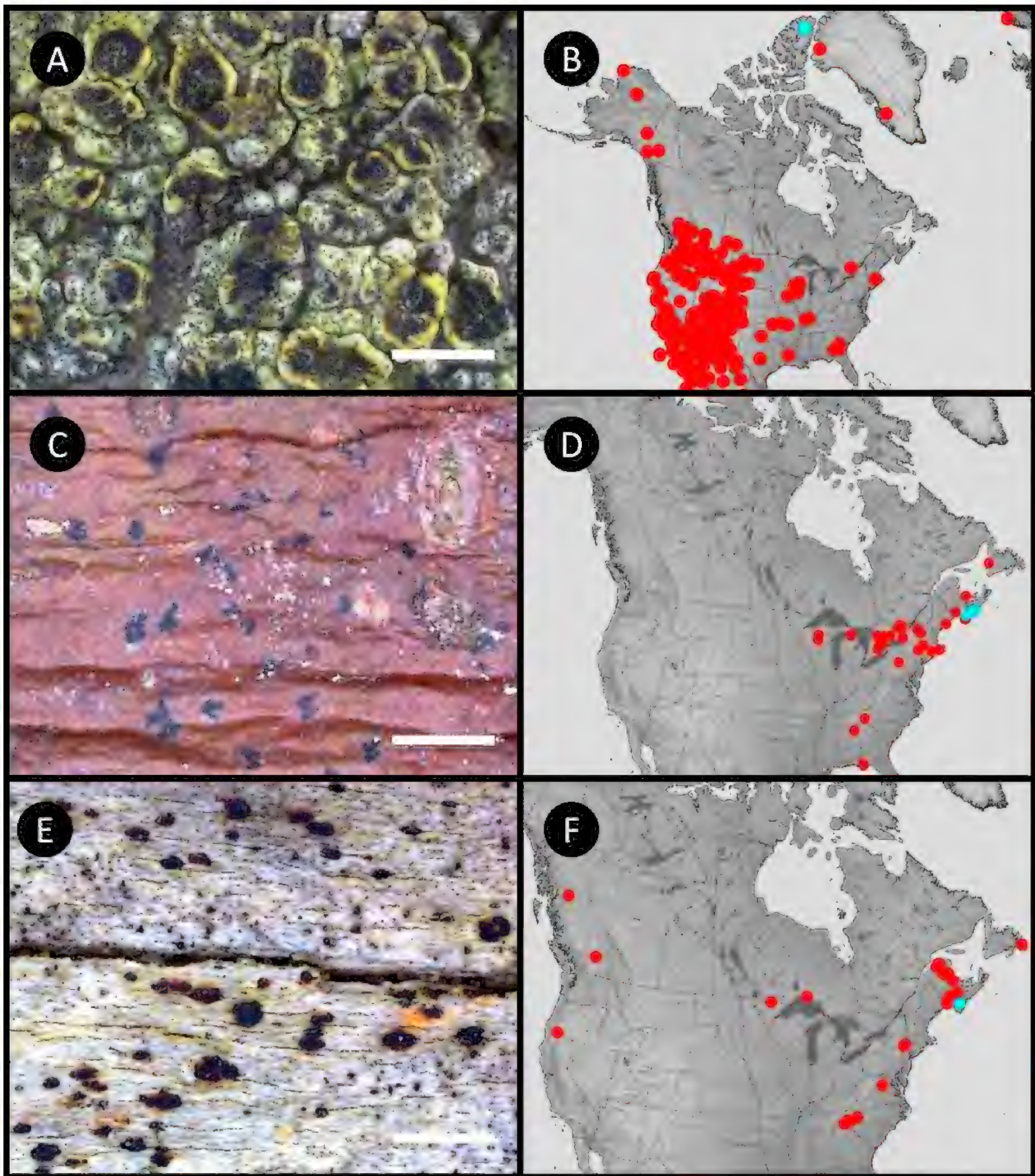
***Acarospora schleicheri* (Ach.) A.Massal.**

### FIGURES 3A & B.

*Acarospora schleicheri* is reported here for the first time from Nunavut from the High Arctic. This is the northernmost known record, but it is not surprising to find the species in the region because it has been collected in western Greenland (Hansen & Andersen 1995). It is characterised by an areolate to squamulose thallus with a yellow, UV+ orange (rhizocarpic acid) upper surface and a lower surface with rhizohyphae, apothecia with dark brown disks and polysporous asci, and a terricolous habit (Hansen & Andersen 1995, Knudsen 2007).

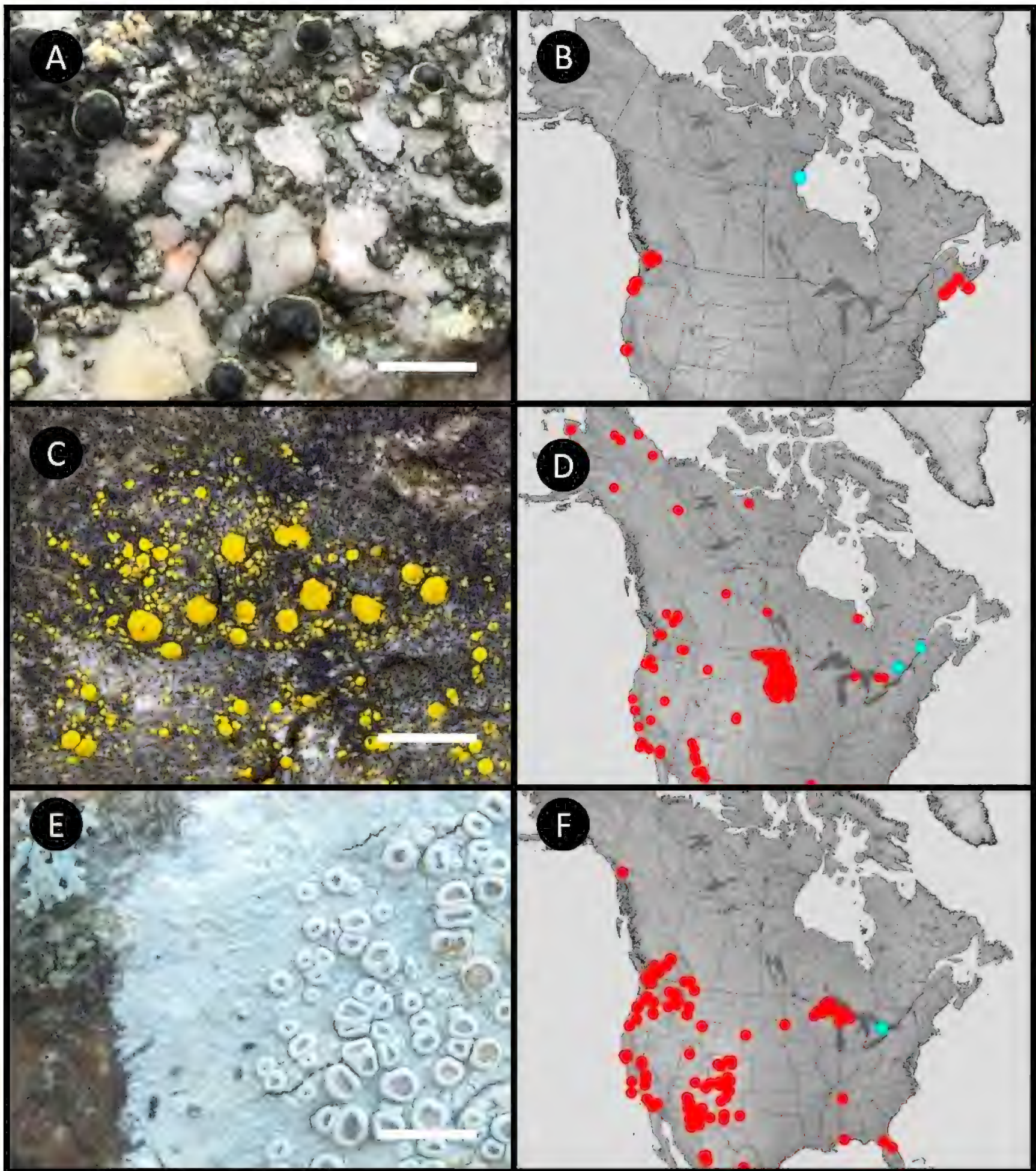
*Specimen examined.* – **CANADA. NUNAVUT.** QIKIQTAAALUK REGION: Quttinirpaaq National Park, ~500 m N of Lake Hazen, N of the national park camp, 16.vii.2017, *R.T. McMullin 18850* & *P. Sokoloff* (CANL).





**Figure 3.** Morphologies and distributions of species discussed here. **A**, *Acarospora schleicheri* thallus and apothecia, (McMullin 18850, CANL). **B**, North American distribution of *A. schleicheri*. **C**, *Arthonia hypobela* apothecia (McMullin 17286, CANL). **D**, North American distribution of *A. hypobela*. **E**, *Arthonia vinosa* apothecia and pycnidia (McMullin 18720 CANL). **F**, North American distribution of *A. vinosa*. Scales = 1.0 mm in A, 1.5 mm in E, 1.6 mm in C. In maps, blue dots = new records, red dots = previous collections.





**Figure 4.** Morphologies and distributions of species discussed here. **A**, *Buellia ocellata* thallus and apothecia, (McMullin 18027, CANL). **B**, North American distribution of *B. ocellata*. **C**, *Candelariella lutella* thallus and apothecia (McMullin 18462, CANL). **D**, North American distribution of *C. lutella*. **E**, *Lecanora carpinea* thallus and apothecia (McMullin 15729 CANL). **F**, North American distribution of *L. carpinea*. Scales = 0.7 mm in A, 1.5 mm in C, 2.0 mm in E. In maps, blue dots = new records, red dots = previous collections.



*Arthonia hypobela* Nyl. (syn. *Arthonia caudata* Willey; Sundin 1999)

**FIGURES 3C & D.**

These are the first reports of *Arthonia hypobela* from Nova Scotia. Two previous unpublished collections were made in southwestern Nova Scotia in 1999 (*W. Buck 35677, 35714* [NY, n.v.]). It is characterised by its non-lichenized thallus, irregularly shaped apothecia that are usually unbranched, substrate (*Pinus strobus*), and hyaline ascospores that are 6 to 8-celled, wider at one end, and often have a tail (elongated at one end) (Sundin 1999, Willey 1887).

*Specimens examined.* – **CANADA. NOVA SCOTIA.** ANNAPOLIS CO.: Halifax, Kejimikujik National Park and National Historic Site, trees along the parking lot for Roger's Brook, along the Kejimikujik Main Parkway, 11.xi.2016, corticolous on *Pinus strobus*, *R.T. McMullin et al. 18805* (CANL). HALIFAX CO.: Old Annapolis Road Nature Reserve, at the trailhead parking lot for the Old Annapolis Road hiking trail along Hiking Trail Road, young forest, edge trees, 25.vi.2017, corticolous on *P. strobus*, *R.T. McMullin et al. 17336* (CANL); Halifax, Point Pleasant Park, along Cable Road, ~50 m S of Cambridge Drive, mixed-wood coastal forest, 22.vi.2017, corticolous on *P. strobus*, *R.T. McMullin 17286* (CANL). QUEENS CO.: Halifax, Kejimikujik National Park and National Historic Site, at the end of Fire Tower Road, at the Fire Tower, mature mixed-wood forest, 11.xi.2016, corticolous on *P. strobus*, *R.T. McMullin et al. 18806* (CANL).

*Arthonia vinosa* Leight.

**FIGURES 3E & F.**

*Arthonia vinosa* is widespread in North America, but it is known from relatively few collections (Lendemer et al. 2013). Though this is the first published record for Nova Scotia, *A. vinosa* was included in an unpublished list for the province compiled by Rick Fournier, which, nevertheless, did not provide voucher information. This species is characterised by convex apothecia that are KOH+ purple (anthraquinones), a reaction best observed on sections under a compound microscope, and 2-celled ascospores that are  $11\text{--}15 \times 4\text{--}5 \mu\text{m}$  (Coppins & Aptroot 2009, Lendemer et al. 2013).

*Specimen examined.* – **CANADA. NOVA SCOTIA.** ANNAPOLIS CO.: Halifax, Kejimikujik National Park and National Historic Site, along Roger's Brook, ~100 m S of the Kejimikujik Main Parkway, 11.xi.2016, lignicolous, *R.T. McMullin et al. 18720* (CANL).

*Buellia ocellata* (Flörke ex Flot.) Körb.

**FIGURES 4A & B.**

*Buellia ocellata* is rarely collected in North America (Lendemer & Harris 2013). It was previously only known from coastal provinces and states on both sides of the continent (Clayden 1998; Harris et al. 2007; Rajakaruna et al. 2011; Sheard 1969). The species is reported here for the first time from Nunavut. It is characterised by a pale yellow areolate thallus that is C+ orange (xanthones), dark apothecia with thalline collars, a HNO<sub>3</sub>+ red epithecium, and brown 2-celled ascospores that are  $(11\text{--})13\text{--}17(\text{--}21.5) \times 6.5\text{--}9(\text{--}11.5)$  (Coppins et al. 2009, Lendemer & Harris 2013, Sheard 1969).

*Specimens examined.* – **CANADA. NUNAVUT.** KIVALLIQ REGION: Arviat, 4.7 km W of airport terminal along road past airport, 11.vii.2016, saxicolous, *R.T. McMullin et al. 18027* (CANL). Nuvuk proposed Territorial Park, esker along N coast, 170 m WNW of cabin, 1.3 km WNW of North Point, tundra, 6.vii.2016, saxicolous, *R.T. McMullin et al. 18039* (CANL).

*Candelariella lutella* (Vain.) Räsänen

**FIGURES 4C & D.**

*Candelariella lutella* is reported here for the first time from Quebec. The species is characterized by a small thallus composed of scattered yellow areoles, polysporous asci, and corticolous substrate (Thomson 1997, Westberg 2004, Westberg et al. 2011). *Candelariella vitellina* (Hoffm.) Müll. Arg. can be similar in appearance and also has polysporous asci, but it has larger thalli (up to several cm wide vs. <0.5

mm in *C. lutella*), larger apothecia (<0.8 mm in diam. vs. <0.4 mm), and it usually grows on non-calcareous rock instead of deciduous trees (Thomson 1997, Westberg 2004, Westberg et al. 2011).

*Specimens examined.* – **CANADA. QUEBEC.** GATINEAU MÉTROPOLITAIN: Alymer, N of Pink Rd., E of Vanier Rd., behind Natural Heritage Campus building, Canadian Museum of Nature, 26.vi.2001, corticolous on fallen *Populus balsamifera*, *I.M. Brodo 33111* (CANL); Chelsea, woodlot at corner of Ch. De la Rivière and Ch. St. Clément, among granitic outcrops and wetlands, within mixed forest, 25.iv.2014, corticolous on dead branch, *C.E. Freebury 2242* (CANL). LES COLLINES-DE-L'OUTAOUAIS REGIONAL CO.: Gatineau Park, Ramsey Lake Area, just off Eardley-Marsham Road towards Blind Lake, 10.v.1998, corticolous on fallen *Populus* branch, *I.M. Brodo 29507* (CANL; conf. R.T. McMullin); Gatineau Park, Luskville Falls Trail, ~30 m SW of the Luskville Fire Tower, 9.iv.2016, corticolous on *Populus*, *R.T. McMullin 18809 & A. Belliveau* (CANL). MUNICIPALITY OF LAC-JACQUES-CARTIER: Forêt Montmorency, along road to Chute de la rivière Noire, ~11.5 km W of Highway 175, 26.v.2017, corticolous on *Populus*, *R.T. McMullin 18462* (CANL).

***Lecanora carpinea* (L.) Vain.**

**FIGURES 4E & F.**

This record was collected during the 2015 Ontario BioBlitz in the Don River Watershed. It is the first report of the species from Ontario. *Lecanora carpinea* is mainly a western species in North America, but it is also known from northern Michigan (CNALH 2017; Harris 2015; Imshaug & Brodo 1966; Ryan et al. 2004). The species is characterised by a KOH+ yellow (atranorin) esorediate thallus, lecanorine apothecia with heavily pruinose disks that are C+ yellow (sordidone), well developed amphithecial cortex, simple hyaline ascospores, and corticolous habit (Imshaug & Brodo 1966, Ryan et al. 2004). *Lecanora subpallens* Zahlbr. is similar and also has C+ yellow pruinose disks, but it differs by lacking an amphithecial cortex and by having protocetraric acid (PD+ red) in the thallus (best seen with a PD test in the amphithecium of apothecial sections under a compound microscope) (Imshaug & Brodo 1966).

*Specimen examined.* – **CANADA. ONTARIO.** YORK REGION: Don River Watershed, Nevada Park, trail off Hunterwood Chase, 14.vi.2015, corticolous, *R.T. McMullin 15729 & M. King* (CANL; conf. I.M. Brodo).

***Melanelixia subaurifera* O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch**

**FIGURE 5A.**

*Melanelixia subaurifera* is a common species in the boreal and temperate regions of North America (Brodo et al. 2001; Hinds and Hinds 2007; Thomson 1984). It is reported here for the first time from Nunavut. The species is distinguished from other brown parmelioid species by the presence of laminal soredia and isidia that often leave white or yellowish patches where they have been rubbed off, by the absence of pseudocyphellae (or by inconspicuous pseudocyphellae), and its C+ red medulla (lecanoric acid) (Brodo et al. 2001; Esslinger 1977, 1978).

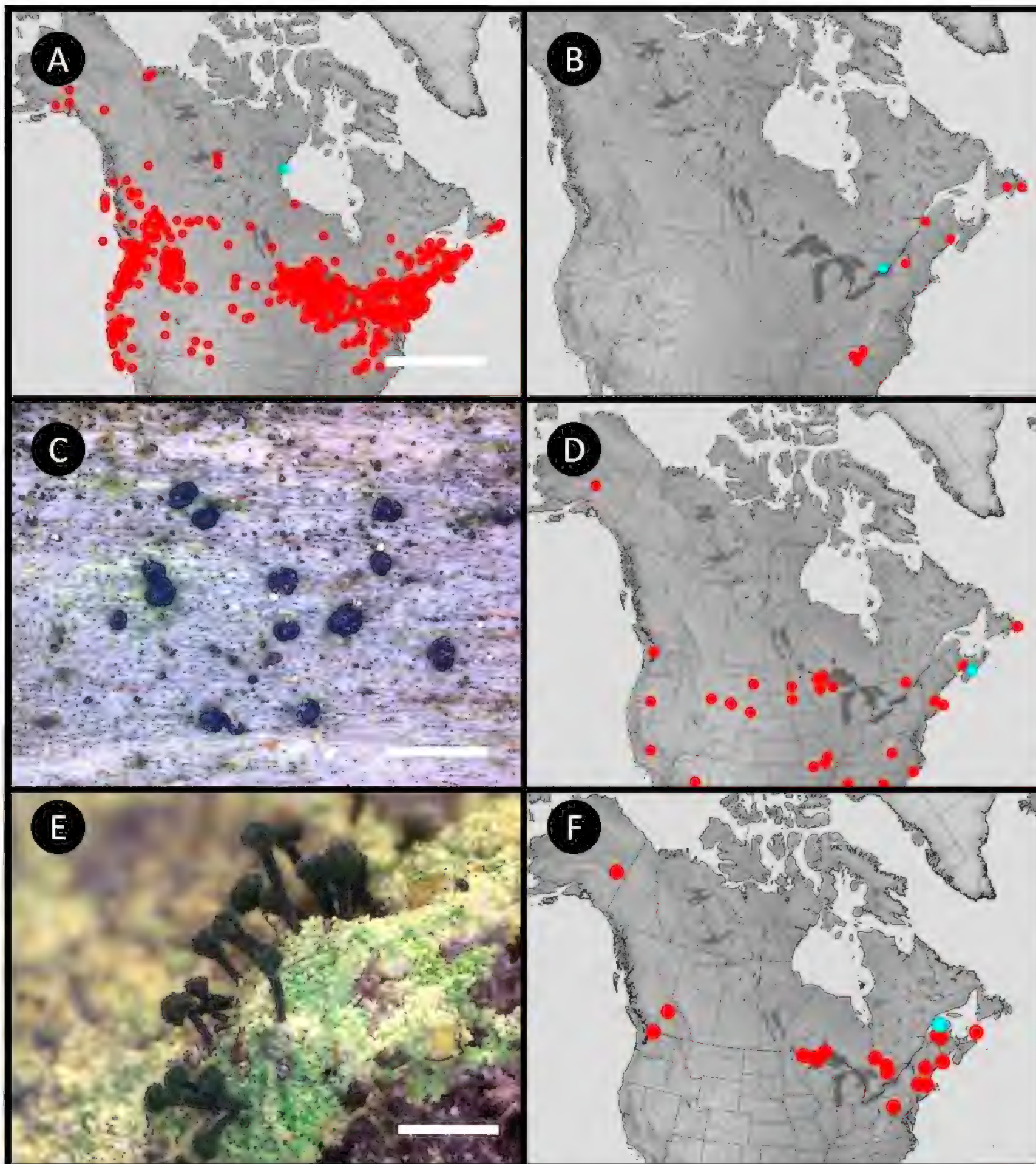
*Specimen examined.* – **CANADA. NUNAVUT.** KIVALLIQ REGION: Arviat, Nuvuk proposed Territorial Park, ca. 300 m ESE of Hudson Bay Post cairn on N coast, 8.vii.2016, lignicolous on an old sled, *R.T. McMullin et al. 17687* (CANL).

***Micarea misella* (Nyl.) Hedl.**

**FIGURES 5C & D.**

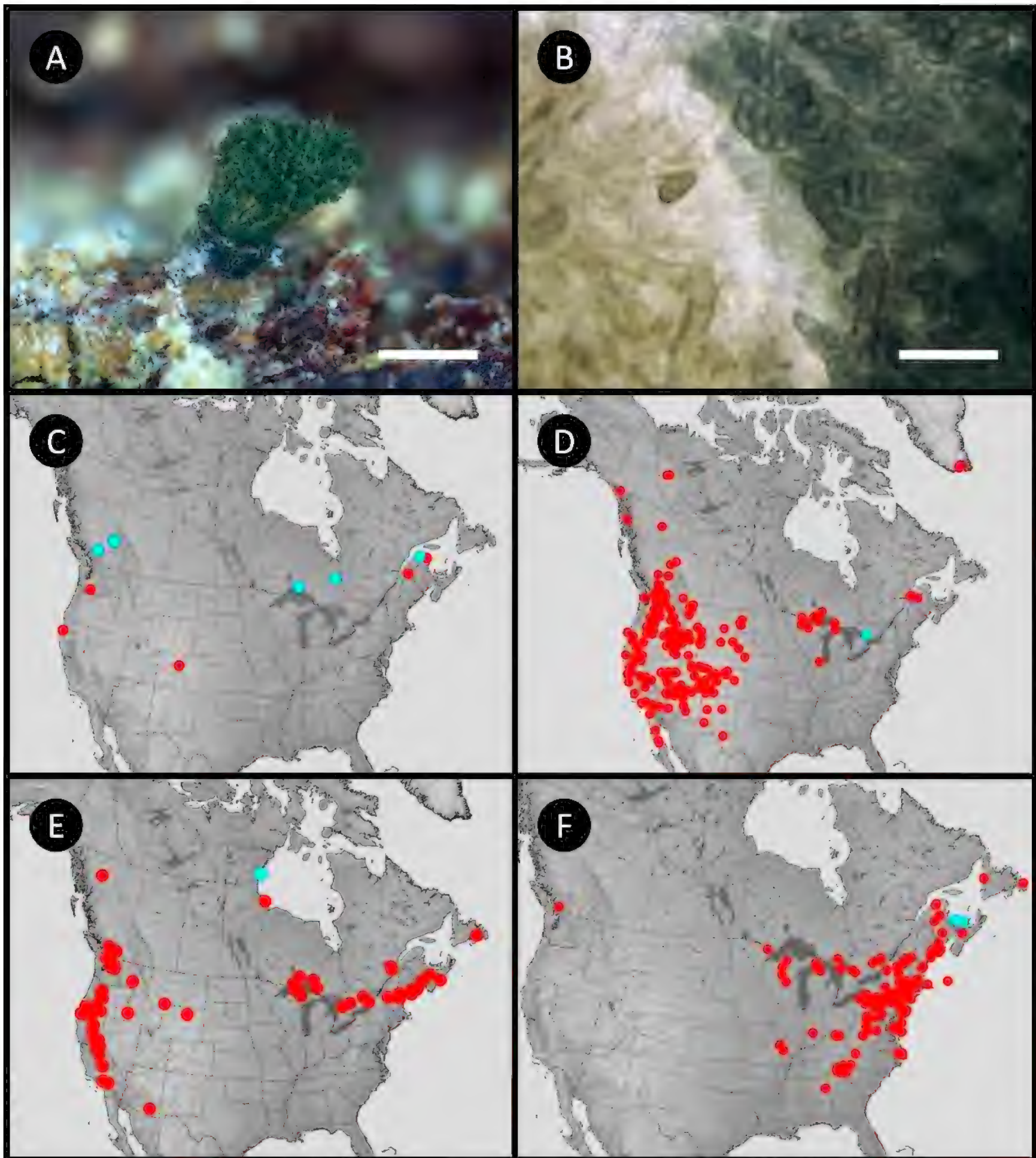
*Micarea misella* is reported here for the first time in Nova Scotia. It is characterised by having an inconspicuous thallus, black convex to globose apothecia with a colourless hypothecium and a hymenium that is 25–36 µm tall with a greenish upper portion that is KOH+ violet, 1(–2)-celled hyaline ascospores that are (6.5–)7–9.5 × 2–3(–3.5) µm, and abundant stalked pycnidia (Coppins 2009, Czarnota 2007).





**Figure 5.** Morphologies and distributions of species discussed here. **A**, North American distribution *Melanelixia subaurifera*. **B**, North American distribution of *Pilophorus fibula*. **C**, *Micarea misella* thallus with apothecia and pycnidia (McMullin 17330, CANL). **D**, North American distribution of *M. misella*. **E**, *Microcalicium arenarium* apothecia on *Psilolechia lucida* (McMullin 18810 CANL). **F**, North American distribution of *M. arenarium*. Scales = 1.1 mm in E, 1.0 mm in C. In maps, blue dots = new records, red dots = previous collections.





**Figure 6.** Morphologies and distributions of species discussed here. **A**, *Microcalicium conversum* apothecium with large, aeruginose mazaedium (Wetmore 28801B, CANL). **B**, *M. conversum* apothecium in water mount illustrating brown excipulum (left) and aeruginose mazaedium (right) (Wetmore 28801B, CANL). **C**, North American distribution of *M. conversum*. **D**, North American distribution of *Psora globifera*. **E**, North American distribution of *Rhizocarpon lecanorinum*. **F**, North American distribution of *Ropalospora viridis*. Scales = 0.3 mm in A, 15  $\mu$ m in B. In maps, blue dots = new records, red dots = previous collections.

*Specimen examined.* – **CANADA. NOVA SCOTIA.** HALIFAX CO.: Old Annapolis Road Nature Reserve, along Old Annapolis Road hiking trail, ~220 m W of the trailhead parking lot along Hiking Trail Road, at a stream at the N end of Rees Lake, 25.vi.2017, lignicolous, *R.T. McMullin et al. 17330* (CANL).

***Microcalicium arenarium* (Hampe ex A.Massal.) Tibell**

**FIGURE 5E & F.**

*Microcalicium arenarium* is an inconspicuous species that occurs on thalli of *Psilolechia lucida* (Ach.) M. Choisy, colonies of non-lichenized *Stichococcus*, or mixed colonies of *Stichococcus* and trebouxoid algae on rock (Selva 2014, Tibell 1999). It is reported here for the first time from Quebec. The species is characterised by its distinctly stalked apothecia, aeruginose (olive to blue-green) mazaedia that do not extend far above the excipulum, and ascospores that are <10 µm long and ellipsoidal in shape (Selva 2014, Tibell 1999).

*Specimen examined.* – **CANADA. QUEBEC.** M.R.C. DE LA HAUTE-GASPÉSIE: Parc national de la Gaspésie, along Rivière Sainte-Anne at the western base of Mt. Albert, in a small rock crevasse in the river canyon below Chute St. Ann, 26.ix.2017, lichenicolous on *Psilolechia lucida*, *R.T. McMullin 18810 & H. Dorval* (CANL).

***Microcalicium conversum* Tibell**

**FIGURES 6A & B.**

*Microcalicium conversum* is reported here for the first time from British Columbia and Ontario. It is characterised by sessile or subsessile apothecia, aeruginose (olive to blue-green) mazaedia, and ascospores that are >10 µm long and cylindrical (Selva 2014). *Microcalicium disseminatum* (Ach.) Vain. is similar but differs by having an aeruginose excipulum instead of one that is brown or red-brown in colour and it commonly produces multiseptate rather than 1-septate ascospores (Selva 2014, Tibell 1978).

*Specimens examined or reported.* – **CANADA. BRITISH COLUMBIA.** PEMBERTON VALLEY: ~20 mi N of Pemberton, in a mixed-wood conifer forest, 17.ix.1972, corticolous on *Thuja plicata*, *L. Tibell 7172* (CANL; rev. S.B. Selva). THOMPSON-NICOLA DISTRICT: Wells Gray Provincial Park, S end of Clearwater Lake, 1 km N of the road end, 31.viii.1996, lignicolous, *T. Goward & Arsenault 96-1011* (CANL; rev. S.B. Selva); Wells Gray Provincial Park, Murtle Plateau, S of Majerus farm, Blackwater Bluff, old-growth conifer forest, 24.viii.1996, *T. Goward & A. Arsenault 96-775* (CANL; rev. S.B. Selva); Wells Gray Provincial Park, along road to Clearwater Lake, at Deep Creek, 20.ix.1972, lignicolous on *T. plicata*, *L. Tibell 5205* (CANL; rev. S.B. Selva); **ONTARIO.** COCHRANE DISTRICT: Stimson Township, Iroquois Falls Forest North, *Pinus mariana* and *Pinus banksiana* dominated forest between 101-140 years old, 11.vii.2008, corticolous on *Picea mariana*, *R.T. McMullin 9929 & L. Elias* (CANL). THUNDER BAY DISTRICT: Slates Islands, Patterson Island, on hill E of McGeevy Harbour, in *Picea* and *Thuja* bog, 16.vii.1977, corticolous on *Picea* snag, *C.M. Wetmore 28801B* (CANL; rev. S.B. Selva). **QUEBEC.** M.R.C. DE LA HAUTE-GASPÉSIE: Parc national de la Gaspésie, *T. occidentalis* forest on the N side of road 16 and N of ruisseau du Portage, ~500 m E of the turn off to lac aux Américains, 25.ix.2017, corticolous on *T. occidentalis*, *R.T. McMullin et al. 18811* (CANL).

***Pilophorus fibula* (Tuck.) Tuck.**

**FIGURE 5B.**

The specimen cited below was collected by John Macoun in 1882 and published as *Pilophorus cereolus* var. *fibula* Tuck. (Macoun 1902). The identification was then erroneously revised to the western North American species *P. acicularis* (Ach.) Th. Fr. on an annotation slip in 1975. Subsequent examination in 1986 agreed with the revision and suggested that locality information on the packet was inaccurate since *P. acicularis* is not known to occur east of Alberta in Canada. As a result, neither name was included on the last published list of Ontario lichens (Newmaster et al. 1998). Upon reviewing the specimen again, I found that the original identification was correct and reinstate it here, using its current name, as the only known collection of *P. fibula* from Ontario. The species is characterized by having cephalodia between the



squamules and short (<1 mm tall), esorediate pseudopodetia with black globose apothecia at the tips (Jahns 1970, 1981).

*Specimen examined.* – **CANADA. ONTARIO.** BAY OF QUINTE REGION: Belleville, 1882, on rocks, *J. Macoun 2063* (CANL; conf. R.T. McMullin).

***Psora globifera* (Ach.) A. Massal.**

**FIGURE 6D.**

*Psora globifera* is reported here for the first time from southern Ontario. It is common in western North America with scattered disjunct populations in northeastern parts of the continent, mostly from the Lake Superior region (see Fig. 6D; Thomson 1997, Timdal 1986). This species is characterised by brown squamules that are <5 mm in diameter and have margins that are concolorous with the upper surface, dark apothecia that are laminal on the squamules, absence of secondary metabolites, and its occurrence on calcareous substrates (usually soil) (Timdal 1986).

*Specimen examined.* – **CANADA. ONTARIO.** KAWARTHA LAKES DIVISION: Carden Alvar Natural Area, road side along Alvar Rd., ~1 km W of Sugar Bush Road, 3.x.2015, terricolous on thin soil over calcareous rock, *R.T. McMullin 18343 & E. Larsen* (CANL).

***Rhizocarpon lecanorinum* Anders**

**FIGURE 6E.**

This is apparently the northernmost occurrence of *Rhizocarpon lecanorinum* in North America. It is also the first record of the species from Nunavut. This species is characterized by yellow areoles that are crescent-shaped around black apothecia, a KOH- epihymenium, the presence of stictic acid and sometimes gyrophoric acid, and a black prothallus (Fletcher et al. 2009, Poelt 1988)

*Specimen examined.* – **CANADA. NUNAVUT.** KIVALLIQ REGION. Arviat, W edge of hamlet, ca. 50 m W of creek and first bridge on road to Maguse Lake, 3.vii.2016, *R.T. McMullin et al. 18019* (CANL).

***Ropalospora viridis* (Tønsberg) Tønsberg**

**FIGURE 6F.**

*Ropalospora viridis* is new to Prince Edward Island (McMullin 2015). It is a soorediate crustose lichen with small green areoles, often forms a brown prothallus, and typically occurs on bark (Lendemer 2011). It is morphologically similar to *Fuscidea pusilla* Tønsberg, but that species contains divaricatic acid instead of perlatolic acid (Lendemer 2011).

*Specimens reported.* – **CANADA. PRINCE EDWARD ISLAND.** PRINCE CO.: Pleasant View Cedar Swamp, 1 to 1.3 km SW of junction of Route 155/Thompson Road with Route 15, 15.v.2009, *S.R. Clayden 19822B* (NBM, n.v.). QUEENS CO.: West Covehead, between Brackley and Covehead Bays, 0.5 mi S of Prince Edward National Park, 1977, *J. Fabiszewski s.n.* (NY[n.v.], rev. Lendemer).

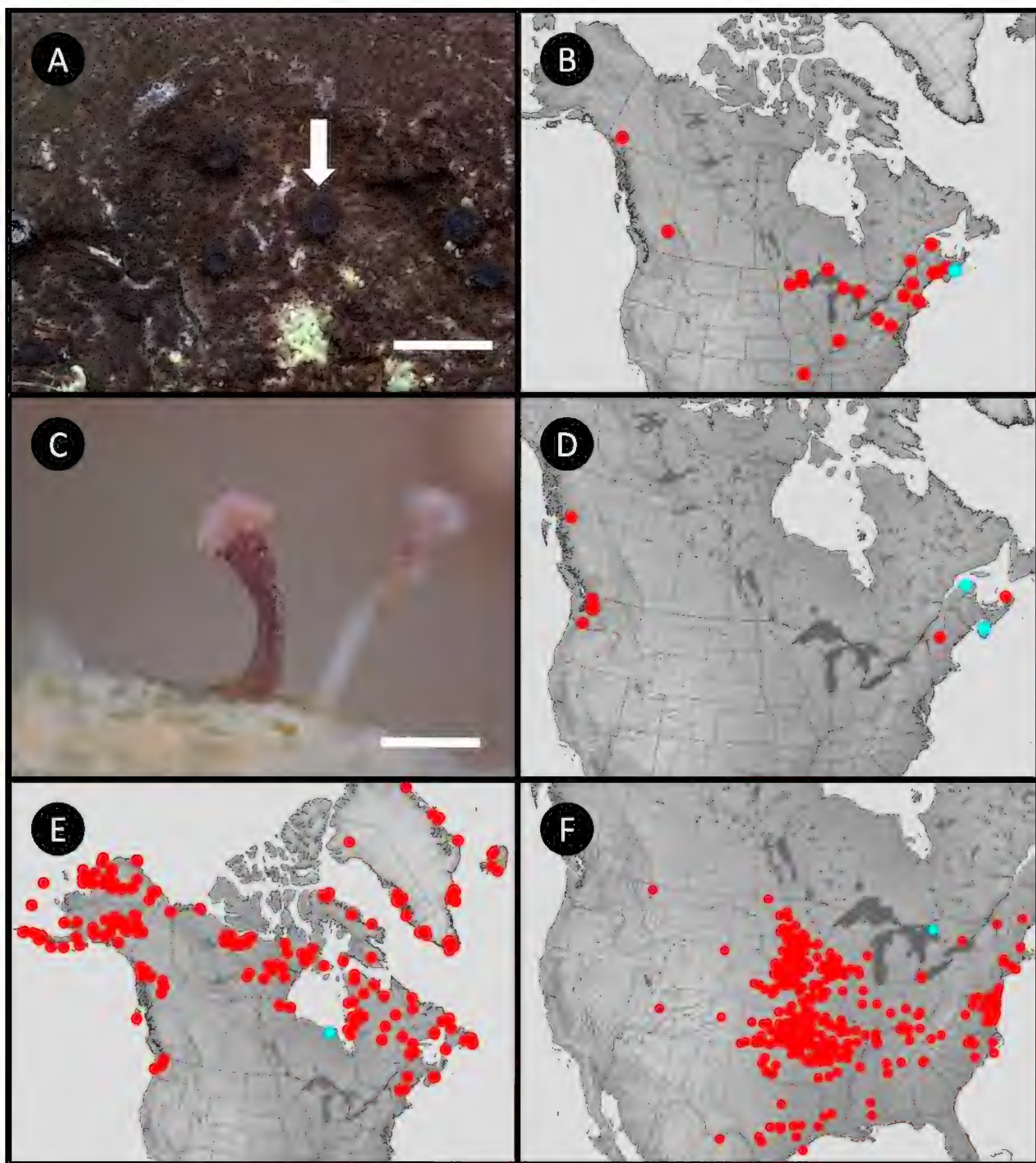
***Sarea difformis* (Fr.) Fr.**

**FIGURES 7A & B.**

*Sarea difformis* is a resinicolous species that occurs on conifers (Hawksworth & Sherwood 1981), usually on old darkened resin (Fig. 7A). It is characterised by dark apothecia, polysporous asci, and its substrate (Hawksworth & Sherwood 1981). This species is new to Nova Scotia. It is inconspicuous and has likely been overlooked in the province and in many areas of North America.

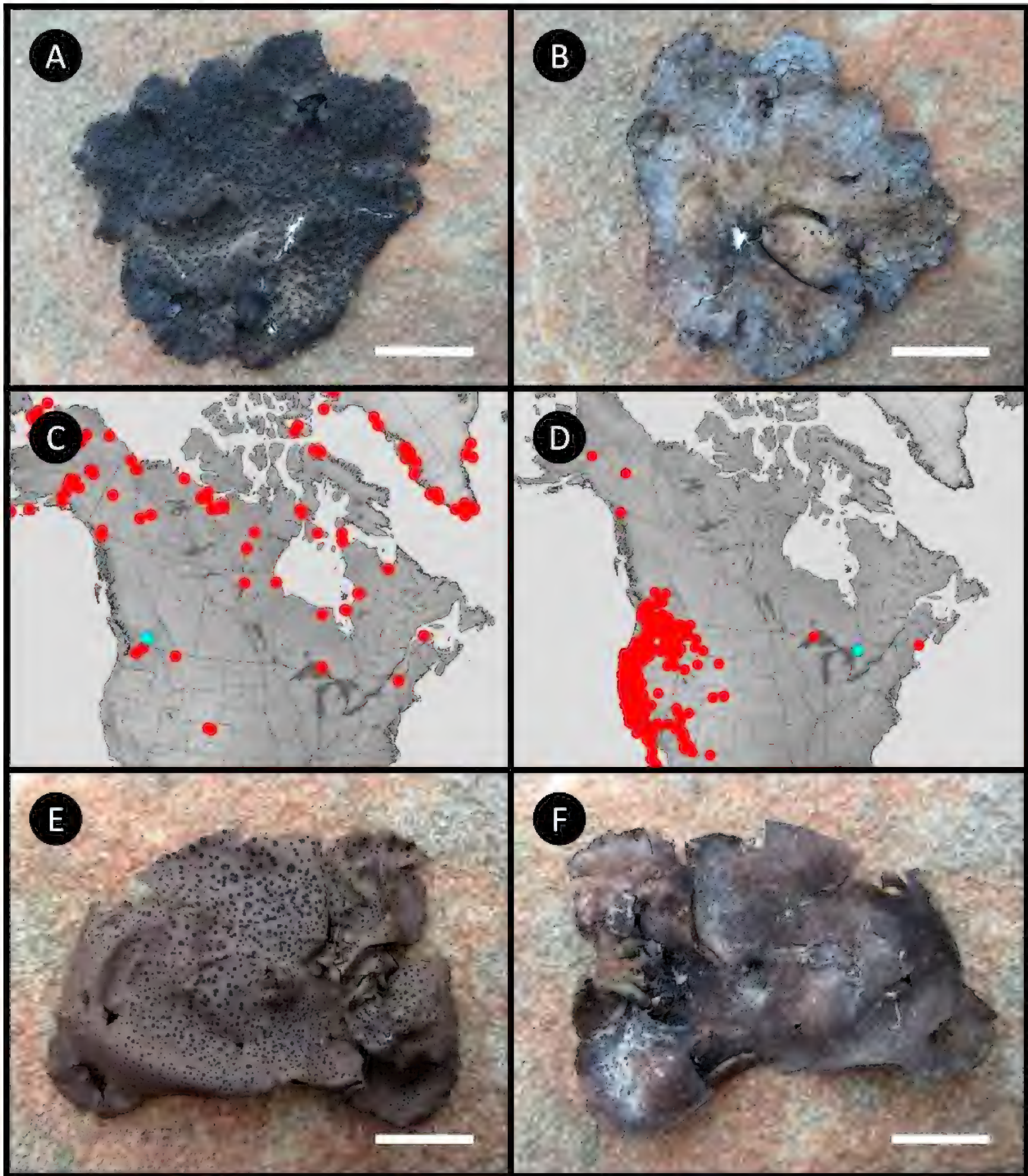
*Specimen examined.* – **CANADA. NOVA SCOTIA.** HALIFAX CO.: Halifax, Point Pleasant Park, between the southern ends of Cable Road and Tower Hill Road, 22.vi.2017, resinicolous on *Picea*, *R.T. McMullin 17280* (CANL).





**Figure 7.** Morphologies and distributions of species discussed here. **A**, *Sarea difformis* apothecia on *Picea* resin (McMullin 17280, CANL). **B**, North American distribution of *S. difformis*. **C**, *Sclerophora peronella* apothecium (McMullin 18803, CANL). **D**, North American distribution of *S. peronella*. **E**, North American distribution of *Sphaerophorus fragilis*. **F**, North American distribution of *Xanthomendoza weberi*. Scales = 1.0 mm in A, 0.2 mm in C. In maps, blue dots = new records, red dots = previous collections.





**Figure 8.** Morphologies and distributions of species discussed here. **A & B**, *Umbilicaria arctica* thallus upper surface (A) and lower surface (B) (Scotter JPL0013, CANL). **C**, North American distribution of *U. arctica*. **D**, North American distribution of *U. phaea* var. *phaea*. **E & F**, *Umbilicaria phaea* var. *phaea* thallus upper surface (D) and lower surface (E) (Franklin 10033, CANL). Scales = 1.0 cm in A & B, 0.8 cm in E & F. In maps, blue dots = new records, red dots = previous collections,



***Sclerophora peronella* (Ach.) Tibell**

**FIGURE 7C & D.**

*Sclerophora peronella* is listed by the Committee on the Status of Endangered Wildlife in Canada as ‘special concern’ in Canada (COSEWIC 2005). It is reported here for the first time from Quebec and southwestern Nova Scotia. It has previously only been reported in Canada from Cape Breton in Nova Scotia and from British Columbia (Selva 2014). The species is distinguished by apothecia that are <0.9 mm tall, a stalk that is epruinose and reddish centrally transitioning to hyaline near the margins (best seen in a water mount under a compound microscope), the lack of a collar or depression in the excipulum around the stalk, smooth round ascospores that are mostly <3.5 µm in diameter, and *Trentepohlia* photobiont (Selva 2014, Tibell 1999).

*Specimens examined.* – **CANADA. NOVA SCOTIA.** ANNAPOLIS CO.: Kejimikujik National Park and National Historic Site, along trail at the SW end of Big Dam Lake, 500 m west of the Big Dam parking lot, in an *Acer rubrum* swamp, 17.xi.2016, lignicolous on the heartwood of a live *Acer rubrum*, R.T. McMullin et al. 18804 (CANL). **QUEENS COUNTY:** Kejimikujik National Park and National Historic Site, Kejimikujik Lake, along the NE shore of Freeman Island, 15.xi.2016, lignicolous on the heartwood of a live *Acer rubrum*, R.T. McMullin et al. 18803 (CANL). **QUEBEC.** M.R.C. DE LA HAUTE-GASPÉSIE: Parc national de la Gaspésie, along Rivière Sainte-Anne at Petit Saut, off trail ~50 m N of the northernmost cabin, a mature mixed-wood forest in the river valley dominated by *Abies balsamea*, *Betula alleghaniensis*, and *Picea mariana*, 22.ix.2017, lignicolous in the hollow of a live *Betula alleghaniensis*, R.T. McMullin et al. 18802 (CANL; ver. S.B. Selva).

***Sphaerophorus fragilis* (L.) Pers.**

**FIGURE 7E.**

A specimen identified as *Sphaerophorus globosus* (Huds.) Vain. from CANL was reidentified as *S. fragilis*, which is a new record for Ontario. *Sphaerophorus globosus* differs from *S. fragilis* by having an I+ blue (vs. I-) medulla and it has larger main branches with smaller side branches, rather than branches with a similar diameter throughout (Thomson 1984, Tibell 1975).

*Specimen examined.* – **CANADA. ONTARIO. KENORA DISTRICT:** Hudson Bay Lowlands, ~65 km S of Hudson Bay and ~83 km ESE of Peawanuck along the Winisk River, 6.v.2010, saxicolous on a rock outcrop, M. Oldham 37830z (CANL; rev. R.T. McMullin).

***Umbilicaria arctica* (Ach.) Nyl.**

**FIGURE 8A-C.**

*Umbilicaria arctica* is widespread in North American arctic and alpine regions (Llano 1950, Thomson 1984). It occurs in the Yukon Territory and Washington State, so it is not surprising that it was also found in British Columbia. The species is similar in appearance to *U. hyperborea* (Ach.) Hoffm. var. *hyperborea*. Both species have a brown and strongly verrucose upper surface with black gyrose apothecia, but *U. hyperborea* var. *hyperborea* has a brown lower surface rather than one that is pigmented black around the umbilicus, then surrounded by a tan area and then a grey area towards the margins (Fig. 8B; Llano 1950, Thomson 1984). *Umbilicaria arctica* was reported by Thomson (1984) from British Columbia on the basis of a collection made by Brodo in 1967 (*Brodo 10981*, CANL) on Haida Gwaii. However, subsequent examination has shown that specimen actually corresponds to *U. hyperborea* var. *hyperborea*. The first confirmed report of *U. arctica* from British Columbia is provided here.

*Specimen examined.* – **CANADA. BRITISH COLUMBIA. OKANAGAN REGION:** Central Okanagan Regional District, West Kelowna, c. 100 m E of Crystal Mountain Ski Area and c. 100 m W of the Jackpine Forest Service Rd., jackpine meadows and associated mixed forest, elevation between 1225-1332 m, 17.v.2016, G. Scotter JPL0013 (CANL; det. R.T. McMullin).



***Umbilicaria phaea* var. *phaea* Tuck.**

**FIGURE 8D-F.**

*Umbilicaria phaea* var. *phaea* is common in western North America and is rare in the eastern parts of the continent (Hestmark 2004, Llano 1950, Thomson 1984). Here the species is newly reported from Ontario. It is characterised by umbilicate monophyllous thalli that are <6(–10) mm in diameter, a smooth brown upper surface with dark cracks, a light to dark brown papillate lower surface that usually lacks rhizines, and a C+ red medulla due to the presence of gyrophoric and lecanoric acids (Fig. 8F; Hestmark 2004, Llano 1950, Thomson 1984).

*Specimens examined.* – **CANADA. ONTARIO.** PARRY SOUND DISTRICT: Georgian Bay, Shawanaga Islands, E-19, SW shore, ~2.5 from the shore, 19.ix.2016, on exposed non-calcareous rock, *J. Franklin 10031* (CANL), *J. Franklin 10032* (CANL), *J. Franklin-10033* (CANL; det. R.T. McMullin).

***Xanthomendoza weberi* (S.Y. Kondr. & Kärnefelt) L. Lindblom**

**FIGURE 7F.**

Six previous collections, historical and modern, of *Xanthomendoza weberi* have been reported from Ontario (McMullin et al. 2015). All of these collections were made on the northern shores of Lake Erie and Lake Ontario (McMullin et al. 2015). The collection reported here extends the northern range limit of the species in the province. *Xanthomendoza weberi* is a recent segregate from *X. fulva* (Hoffm.) Søchting, Kärnefelt & S. Kondr. (Lindblom 2006). It is characterized by erect and narrow lobes (<0.2–0.6 mm wide) with dichotomous branching, terminal soralia, and the presence of rhizines (Hinds & Hinds 2007, Lindblom 2006).

*Specimen examined.* – **CANADA. ONTARIO.** PARRY SOUND DISTRICT: Georgian Bay, Shawanaga Islands, E-19, SW shore, ~2.5 m from the shore, 19.ix.2016, on exposed non-calcareous rock, *J. Franklin 10029* (CANL; det. R.T. McMullin).

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## *Stigmidium rouxianum* (Mycosphaerellaceae, Dothideomycetes), reported new for North America and California

JANA KOCOURKOVÁ<sup>1\*</sup> AND KERRY KNUDSEN<sup>2</sup>

**ABSTRACT.** – *Stigmidium rouxianum* is a member of the *S. psorae* group with 1-septate hyaline ascospores, a net of interascal filaments, and an absence of periphysoids. *Stigmidium rouxianum* was described from Europe where it has been reported growing on *Acarospora cervina*. In North America it was collected in California on *A. obpallens*.

**KEYWORDS.** – Channel Islands, Joshua Tree National Park, lichenicolous fungi, *Stigmidium fuscatae*.

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### INTRODUCTION

*Stigmidium* Trevis. is a genus of lichenicolous ascomycetes currently placed in the family Mycosphaerellaceae, which in turn is included in the Dothideomycetes (Hyde et al. 2013). No phylogenetic analysis of *Stigmidium* has been published to verify the current placement of the genus in the Mycosphaerellaceae (Hyde et al. 2013). *Stigmidium* is heterogeneous and includes species with three different types of hamathecium (Calatayud & Triebel 2003, Hawksworth, *pers. comm.*, Kocourková & Knudsen 2009). The type of the genus is *S. schaereri* (A. Massal.) Trevis., a species occurring on *Solorina*. *Stigmidium* s. str. is defined by 1-septate hyaline or subhyaline ascospores, a hamathecium of external periphyses, short two-celled periphysoids pendant from the ceiling of the perithecioid ascomata, and no interascal filaments (Pérez-Ortega et al. 2010; Hyde et al. 2013). The *S. placynthii* group is distinguished by long periphysoids of 3-to-5 cells instead of two-celled periphysoids (Kocourková & Knudsen 2009, 2012). The *S. psorae* group is distinguished by a net of interascal filaments and the absence of periphysoids (Calatayud & Triebel 2003). The *S. psorae* group currently comprises three species: *S. psorae* (Anzi) Hafellner on *Psora* species, *S. rouxianum* Calatayud & Triebel on *Acarospora* species, and *S. squamarinicola* Calatayud & Triebel on *Squamarina* species (Calatayud & Triebel 2003). Of those three species, only *S. psorae* has been reported from North America (Esslinger 2018). Here we report *S. rouxianum* as new for North America and California, growing on a new host, *Acarospora obpallens* (Nyl. ex Hasse) Zahlbr. (Kocourková et al. 2012). The revised description is provided based on Californian specimens.

### MATERIALS AND METHODS

Specimens of *Stigmidium rouxianum* were studied from CFBS, UCR, and the private herbarium Jana Kocourková and Kerry Knudsen (hb. K & K). Hand sections of specimens were studied using standard microscopy and measured in water. The amyloid reaction of the hamathecial gel was tested with

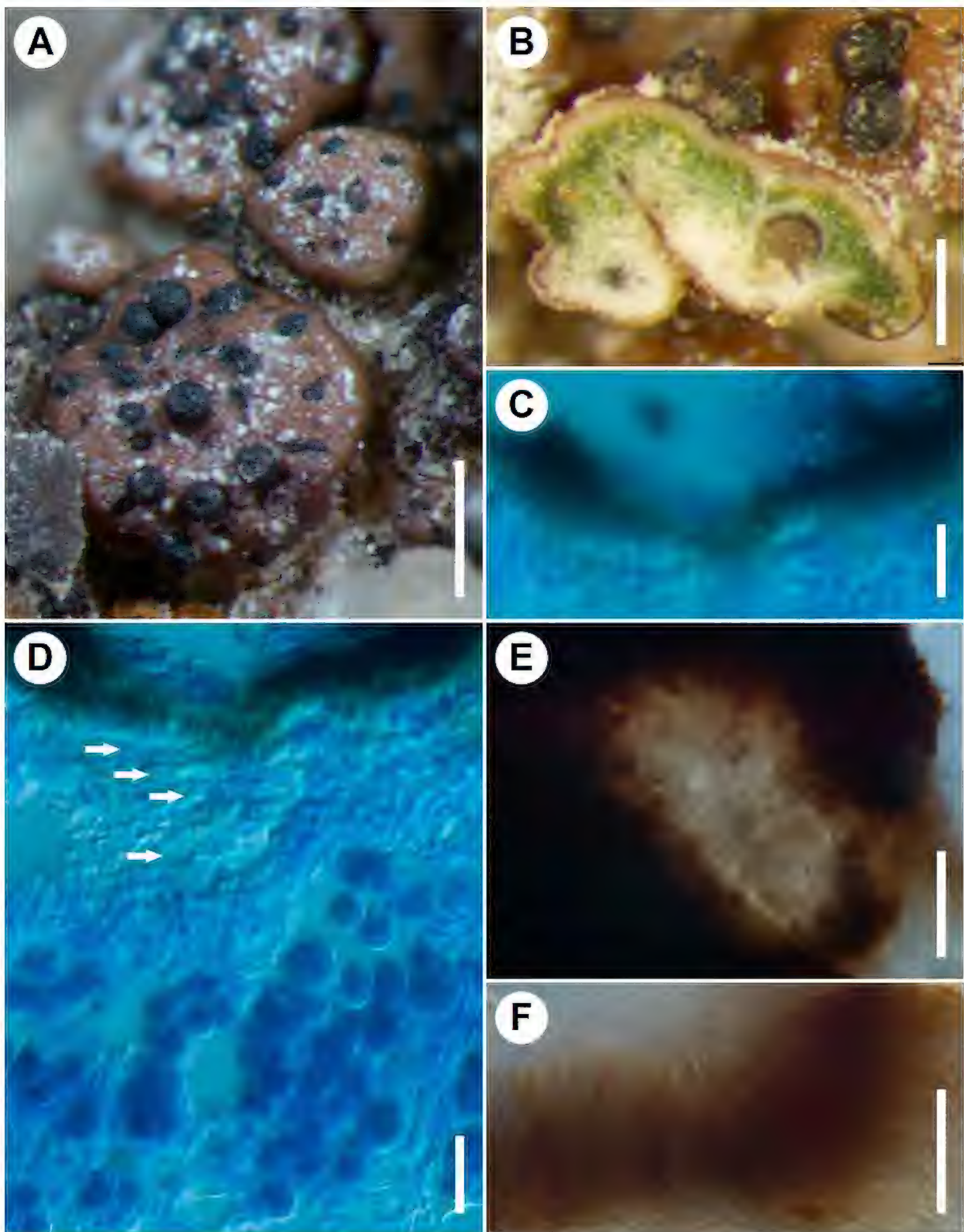
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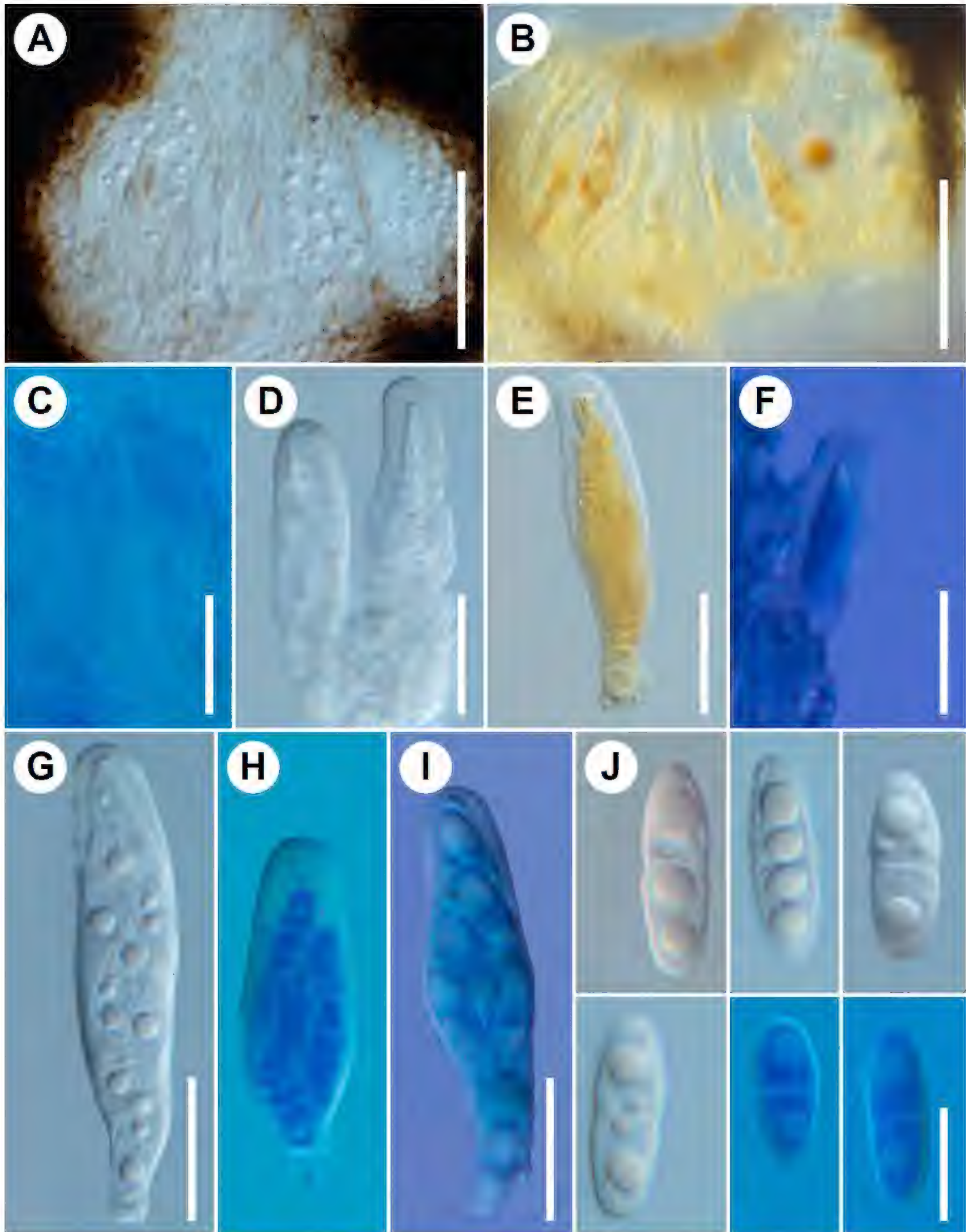
\*author for correspondence





**Figure 1.** *Stigmidium rouxianum* (Knudsen 13442, UCR). **A**, infected thallus of *Acarospora obpallens*, ascomata. **B**, ascomata originating below the algal layer, eventually sessile. **C**, vegetative hyphae in lactophenol cotton blue. **D**, pseudoparenchymatous wall at base of ascoma in lactophenol cotton blue. **E & F**, external periphyses around the ostiole in water (F squash preparation). Scales: A = 500  $\mu\text{m}$ ; B = 200  $\mu\text{m}$ ; C-F = 20  $\mu\text{m}$ .





**Figure 2.** *Stigmidium rouxianum* (Knudsen 13442, UCR). **A**, section of ascoma in water. **B**, section of ascoma in I. **C**, infrequently branched interascal filaments in lactophenol cotton blue. **D**, young asci in water. **E**, young ascus in I. **F**, young ascus in brilliant cresyl blue; **G-I**, nearly mature asci (G, in water; H, in lactophenol cotton blue; I in brilliant cresyl blue). **J**, guttulate ascospores (top and bottom left in water, bottom left two in lactophenol cotton blue). Scales: A, B = 50  $\mu$ m, C-I = 20  $\mu$ m, J = 10  $\mu$ m.

fresh undiluted Merck's Lugol (I) without or with pretreatment of 10% KOH (K/I). Hamathecium was stained with Lactophenol Cotton Blue (LPCB) and Congo Red (CR). Metachromatic reactions were tested with 1% solution of Brilliant Cresyl Blue (BCr). Ascospore measurements were made in water with accuracy of 0.5  $\mu\text{m}$  and given in the form "(minimum–) mean minus standard deviation–mean–mean plus standard deviation (–maximum) and followed by the number of measurements (n); the length/breadth ratio of ascospores is indicated as l/b and given in the same way. Macro and microphotographs were taken with a digital camera Olympus DP72 on an Olympus SZX 7 Stereomicroscope and an Olympus BX 51 compound microscope fitted with a Nomarski differential interference contrast.

## TAXONOMIC SECTION

***Stigmidium rouxianum* Calatayud & Triebel**, Lichenologist 35(2): 109 (2003). **TYPE: SPAIN.** ARAGON: Prov. Teruel, Sierra de Javalambre, La Puebla de Valverde, Escarbadero de los Lobos, U.T.M. 30TXK7043, c. 1700 m, on the thallus and apothecia of *Acarospora cervina*, on calcareous rocks, 20.vi.1997, V. Calatayud 123 & P. L. Nimis (M-003146, holotype (n.v.); hb. Calatayud, isotype). (Figs. 1 & 2)

**DESCRIPTION.** – *Vegetative hyphae* immersed in the thallus, hyaline, 3–7  $\mu\text{m}$  wide (Fig. 1C), observed in LPCB. *Ascomata* perithecioid, abundant, dispersed to occasionally aggregated in groups of 2 to 3, black, globose to subglobose, occasionally flattened, conspicuously ostiolate, 110–170  $\mu\text{m}$  high, 140–180  $\mu\text{m}$  wide (Fig. 1A), emergent, originating below the algal layer of the host, becoming semi-immersed to eventually sessile (Fig. 1B). *Exciple* pseudoparenchymatous, of *textura angularis*, in upper half dark brown, in lower half pale brown, of 2–3 layers of cells, 4–8  $\times$  4–6  $\mu\text{m}$  (Fig. 1D). *External periphyses* scarce, short, 1-celled, brown (Fig. 1E, F). *Hamathecium of interascal filaments* (Fig. 2C) long, derived from lower wall of ascomatal cavity, branched, occasionally anastomosed, with cells 4–10  $\mu\text{m}$  long, 1–4  $\mu\text{m}$  wide, abundant in young ascomata, compressed among asci. *Asci* originating from the lower wall of ascomatal cavity (Fig. 2A, B), cylindrical to narrowly saccate, shortly stipitate, apex of endoascus distinctly truncate when ascus immature, 6–8 spored, with ascospores irregularly arranged, (41–)49.5–59–68(–74)  $\times$  (13–)14.5–16–17.5(–18)  $\mu\text{m}$  (n = 11) (Fig. 2D–I). *Ascospores* 1-septate, not usually pseudotetrablastic, hyaline, without or with a gelatinous sheath 0.5  $\mu\text{m}$  wide, of equal cells, slightly constricted at septum or not, guttulate, with a large guttula and rarely with several small guttules in every cell, (13.5–)16–17.5–19(–21)  $\times$  5.5–6–6.5  $\mu\text{m}$  (n = 40); l/b = (2.3–)2.7–2.9–3.2(–3.5) (Fig. 2J). *Conidiomata* not seen. *Reactions*. Hymenial gel I–, K/I–, BCr–. Interascal filaments, ascoplasma and ascospore endoplasma I + red (dextrinoid) (Fig. 2B, E), K/I+ red; endoascus BCr+ blue but beak BCr– (Fig. 2F), ascospore wall BCr– (Fig. 2I); CR+ red.

**DISTRIBUTION AND ECOLOGY.** – Europe on *Acarospora cervina* (Ukraine, Spain, France, Italy, Switzerland, the Czech Republic, Romania, and Russia) (Bielzyk et al. 2005; Calatayud & Triebel 2003; Khodosovtsev et al. 2007; Urbanavichus et al. 2011; Vondrák 2006; Vondrák & Šoun 2007). North America on *Acarospora obpallens* (California).

**DISCUSSION.** – *Stigmidium rouxianum* is a member of the *S. psorae* group with a net of interascal filaments. It differs especially from the other two members of *S. psorae* group, *S. squamarinicola* and *S. psorae*, in not producing an I+ violet reaction of the hymenial gel. The interascal filaments are best observed around immature asci in LPCB or another stain. When the centrum of the ascoma becomes filled with mature asci they are broken off and dissolve in the hymenial gel. *Stigmidium fuscatae* (Arnold) R. Sant. occurs on *Acarospora fuscata* (Schr.) Arnold and could be confused with *S. rouxianum*. Larger ascospores distinguish *S. rouxianum* from *S. fuscatae* ((13.5–)16–17.5–19(–21)  $\times$  5.5–6–6.5  $\mu\text{m}$  in *S. rouxianum* vs. (8–)10–12  $\times$  4–5(–5.5)  $\mu\text{m}$  in *S. fuscatae*). *Stigmidium epixanthum* Hafellner is another member of the genus that while it does not belong to the *S. psorae* group, does occur on several different species of yellow *Acarospora* around the world (Hafellner et al. 2002, Triebel & Cáceres 2002). Given that *S. epixanthum* occurs on multiple host species of yellow *Acarospora*, it is not surprising that *S. rouxianum* also occurs on multiple species of brown *Acarospora*. We would expect *S. rouxianum* to be found on other species of *Acarospora*.

*North American specimens examined (all on thalli of *Acarospora obpallens*). – U.S.A. CALIFORNIA. ORANGE CO.: Santa Ana Mountains, Fremont Canyon, 33°49'36"N, 117°40'32"W, 608 m, 16.vi.2005, K. Knudsen et al. 3405 (UCR, hb. Etayo). SANTA BARBARA CO.: Channel Islands National Park, Santa Rosa Island, above Main Rd. between Cherry Canyon and bridge, 34°00'01"N 120°03'30"W, 44 m, 20.x.2006, K. Knudsen 7848 (UCR); Channel Islands National Park, Santa Rosa Island, South Point, 33°54'27"N, 120°07'34"W, 198 m, 14.vi.2009, K. Knudsen 11411.2 & S. Chaney (UCR), K. Knudsen 11413 & S. Chaney (UCR). SAN BERNARDINO CO.: Joshua Tree National Park, Indian Cove, N-facing slope of Wonderland of Rocks, 34°05'11.6"N, 116°8'34.6"W, 920 m, 28.xii.2010, K. Knudsen 13422 (NY, UCR, hb. K & K).*

*European specimens examined for comparison (all on thalli of *Acarospora cervina*). – CZECH REPUBLIC. SOUTHERN MORAVIA: Pálava Hills, Mikulov, Kočiči skála Nature Monument, 362 m, 48°49'33.98"N, 16°38'30.35"E, on calcareous outcrop in steppe, 31.iii.2017, J. Kocourková et al. 9443 (hb. K & K); Mikulov, southern peak of Mt. Šibeničník ca. 2 km S of the town, 238 m, 48°47'15.2"N, 16°37'48.0"E, 14.iv.2005, J. Vondrák 3887 & J. Šoun (CBFS). HUNGARY. BORSOD-ABAÚJ-ZEMPLÉN: Bükk Mts, Miskolc, Mályinka, rocks on E-slope below ruin Dédesvár, ca. 570 m, 14.v.2006, on sun-exposed limestone rock, J. Vondrák 4407 & J. Šoun (CBFS). RUSSIA. CRIMEAN PENINSULA: Alupka, Aj-Petrinskaja jajla Mts., ca. 1 km SE of Mt. Bedene-Kyr, c. 1100 m, 44°28'28.25"N, 34°01'46.16"E, 11.vi.2006, J. Vondrák 4589 & J. Šoun (CBFS).*

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## Diversity and floristic patterns of epiphytic macrolichens on white oak in the Klamath-Siskiyou region

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**ABSTRACT.** – White oak (*Quercus garryana*) plant communities are one of the most threatened habitat types in the Pacific Northwest, and often host diverse and characteristic epiphyte communities. In order to better understand the diversity and floristic patterns of epiphytic macrolichens of these habitats in the Klamath-Siskiyou region we studied lichen communities in 52 plots within the Cascade-Siskiyou National Monument (CSNM). We report a rich flora of 96 species of epiphytes on *Quercus garryana*. Macrolichen species richness in the plots ranged between 12 and 49 species with an average of 24.7 species per plot. The most species-rich genera in descending order were: *Usnea*, *Physconia*, *Physcia*, *Hypogymnia*, *Melanohalea*, *Peltigera*, *Bryoria*, *Lobaria* and *Scytinium*. We found three rare species that are listed by the Oregon Biodiversity Information Center: *Hypotrachyna revoluta* (S3-vulnerable), *Collema curtisporum* (S1-critically imperiled), and *Rostania quadrifida* (S2-imperiled). *Placidium fingenens* was recorded for the first time as an epiphyte in Oregon. We observed floristic patterns that indicate a mix of lichens from six distinct geographic floristic groups. Of these, the California Madrean floristic group had the fewest representative species but nonetheless included a number of species rare in Oregon such as *Melanelixia californica*, *Physconia californica* and *P. fallax*. We discuss how these new findings influence our current knowledge of oak lichen communities and dispersal corridors within the Klamath-Siskiyou region.

**KEYWORDS.** – California flora, biogeography, biodiversity, Siskiyou crest, woodlands, land bridge, Klamath River

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### INTRODUCTION

Oaks are a globally significant substrate for lichens, often hosting diverse communities and locally rare species (e.g. Kappelle & Sipman 1992; Upreti & Chatterjee 2000; Oran & Öztürk 2012; Villella et al. 2013b; Pérez-Pérez et al. 2015; Marmor et al. 2017; El Mokni et al. 2018). Oak-dominated habitats are often subject to intense anthropogenic influences that have substantial effects on lichen communities, such as burning, urbanization, and conversion to agriculture (van Herk 2001; Insarov et al. 2010; Aguilhaume et al. 2017; Güvenç & Öztürk 2017). In the Pacific Northwest humans have recently repressed wildfires in oak-dominated habitats leading to invasion by other tree species, such as conifers (Sugihara and Reed 1987; Engber et al. 2011). This region has seen a significant loss of white oak habitats; Washington State currently retains just nine percent of the oak savannah it contained before Euro-American settlement

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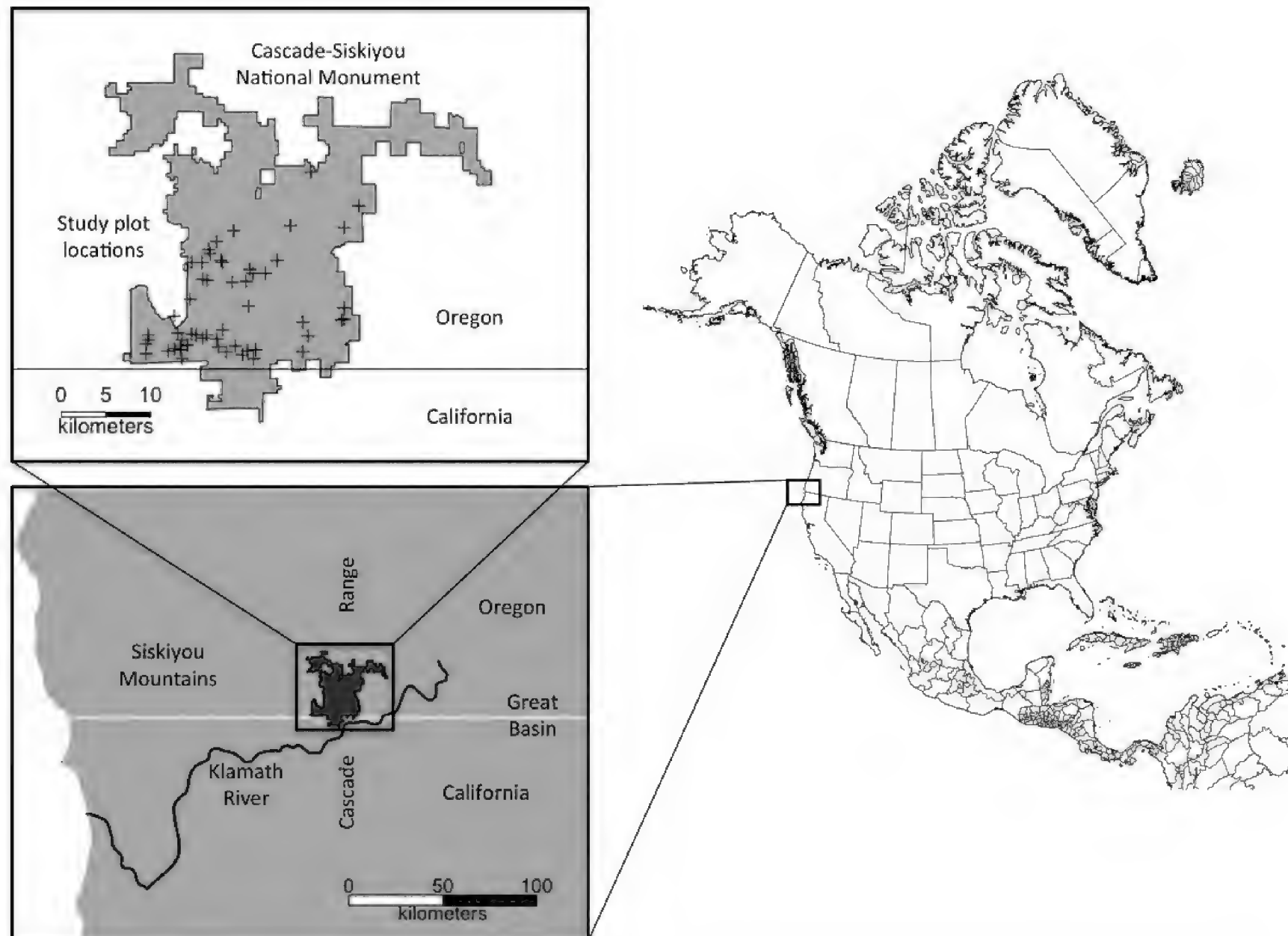


Figure 1. Location of Cascade-Siskiyou National Monument with plot locations depicted by a plus (+).

(Dunwiddie & Bakker 2011) and the reintroduction of prescribed fire has potential to threaten ground layer lichen and bryophyte communities in the remaining patches of oak prairie (Calabria et al. 2015). The Willamette Valley in northwest Oregon historically contained sixty-four percent white oak habitat (Christy & Alverson 2011), but now only one percent of the area remains in this vegetation type (Noss & Peters 1995). In California, oak lichens are threatened by air pollution, where estimates show that at least one third of the area occupied by these habitats exceed critical loads of airborne toxins (Fenn et al. 2014). These trends contribute to making white oak-dominated plant communities one of the most threatened habitat types in the Pacific Northwest (Dunwiddie & Bakker 2011).

White oak habitats in the Klamath-Siskiyou area of southwestern Oregon seem to have fared better, despite experiencing some anthropogenic alteration including shrub removal and grazing (DiPaolo & Hosten 2015). The oak habitats of the valley bottoms have been significantly impacted by urbanization and agriculture and have been identified as in need of conservation (Duren et al. 2012). This region sits at the intersection of several distinct ecoregions and is one of the most biodiverse regions in North America (DellaSala et al. 1999), in part because of its high geologic and topographic diversity and numerous vegetation types (Copeland & Harrison 2014). Major landscape features such as the Klamath River, that cuts across the Cascade Mountains from the desert-like communities to the east, and the Siskiyou crest, that connects the region to the wetter exterior coast ranges to the west, act as dispersal corridors and contribute to the rich variety of species found in the area (Parks et al. 2005). High levels of plant and animal endemism are found here because the area escaped recent glaciation and the rugged topography and geological diversity foster the survival of relict, often disjunct populations (Whittaker 1961; Stebbins & Major 1965; Bury & Pearl 1999; Coleman & Krukeburg 1999; Briles et al. 2005).

The Cascade-Siskiyou National Monument (CSNM) is a 134,774-acre (210 sq. mi.) public land reserve in southwest Oregon and Northwest California administered by the Bureau of Land Management (BLM) that has been designated to preserve the biodiversity of the area (Figure 1). Several studies within the CSNM have noted rare or disjunct populations of lichens, hinting at the significance of the Monument for lichen diversity (Wright 1998, Villella et al. 2010, McCune & Rosentreter 2014, Villella & Sheehy



2016). In this study, we explore white oak-dwelling epiphytic macrolichen species diversity in the CSNM and report new species records. Our findings will help managers develop conservation practices, including strategies for protecting rare species and small populations that occur in oak woodlands.

## MATERIALS AND METHODS

We aimed to sample epiphytic lichen communities of *Quercus garryana* across the geographic range of the species within the CSNM. We delineated white oak-dominated habitats using aerial photographs in Google Earth. Within these habitats, we randomly selected approximately four points within each section (square mile) of CSNM. Of these points, 52 locations were selected for sampling because they represented the full spectrum of white oak habitats within CSNM and were deemed accessible by foot. We sampled macrolichens using a study plot design based on the Forest Inventory and Analysis (FIA) lichen plot method (FIA 2011). We used the FIA plot size (3,793 m<sup>2</sup>), but we only sampled lichens from white oak within these plots.

At each plot a voucher specimen and an abundance estimate were collected for every macrolichen species occurring on white oak. Basic environmental data were recorded including: location, aspect, slope, and elevation. Voucher specimens for all rare or listed sensitive species have been deposited with the Forest Service's Interagency Special Status/Sensitive Species Program (ISSSSP) in the herbarium of Oregon State University (OSC), and at least one representative voucher for all other species encountered has been deposited in the herbarium of The Evergreen State College (EVE).

We queried two online lichen distribution databases, the Consortium of North American Lichen Herbaria (CNALH), and USFS Lichen and Air Quality Database (LAQD) (<http://gis.nacse.org/lichenair/>) along with regional lichen field guides (McCune & Geiser 2009; Sharnoff 2014) to construct distribution maps for each species. We then assigned a geographic floristic group that fit best for every species based on "floristic element" maps for western North America presented by Brodo et al. (2001).

## RESULTS

A total of 96 macrolichens were identified from 1,841 collections across 52 plots (Appendix 1). Species richness at the plot level ranged from 12 to 49 species, with an average of 24.7 species per plot (Standard deviation = 7.1). Species found in 80% (41) or more of the plots were *Evernia prunastri*, *Melanohalea elegantula*, *Candelaria pacifica*, *Letharia vulpina*, *Parmelia barrenoae*, *Physconia americana* and *Usnea scabrata*. *Evernia prunastri* was the most frequent lichen occurring in 85% (44) of the plots. The genus with the most species was *Usnea*, making up roughly 10% (10) of the total species diversity. Other diverse genera included *Physconia* 6% (6), *Phycia* 6% (6), *Hypogymnia* 5% (5), *Melanohalea* 5% (5), *Bryoria* (5%), *Peltigera* 5% (5), *Lobaria* 4% (4) and *Scytinium* 4% (4). Forty-two percent (40) of the species were found in 5% (3) or fewer of the plots. Fourteen percent (13) of the species occurred in only one plot. Seventy-nine percent (76) of species were chlorolichens and 21% (20) were cyanolichens.

Macrolichen species that occurred on white oak in the CSNM had distribution patterns from six geographic floristic groups as delimited by Brodo et al. (2001). The breakdown of species per floristic group was as follows: 24% (23) were oceanic, 19% (18) were pan-temperate, 19% (18) were Pacific Northwest temperate, 15% (14) were west temperate, 13% (13) were Cascades-Northern Rockies western montane, and 5% (5) were California Madrean. Three species were listed with the Oregon Biodiversity Information Center and six species were range extensions based on CNALH records (detailed below).

## DISCUSSION

The Klamath-Siskiyou region has been identified as a regional diversity hotspot for epiphytic lichens (Jovan 2008). Floristic studies from the region show distinct lichen communities with various dominant floristic affinities ranging from Oceanic in the Illinois River watershed to the west (Villella et al. 2013a), California Madrean in California's Central Valley to the south (Carlberg et al. 2017) and Cascades-Northern Rockies Western Montane in Lava Beds National Monument to the east (Sheehy 2017). The macrolichens found on oaks within CSNM exhibit a mix of these floristic influences along with the more widespread temperate elements characteristic of the broader Pacific Northwest.

Regionally noteworthy species such as *Collema curtisporum*, *Dendroscocaulon intricatum* and

*Hypotrachyna revoluta* exhibit abundance and distribution patterns that point to the importance of dispersal corridors for rare lichen occurrences within the region. The proximity of the Siskiyou Crest and the Klamath River canyon provide dispersal corridors from the coastal ranges and the great basin. Species such as *Melanelixia californica*, *Physconia californica* and *Physconia fallax* that are at the northern edge of their range here represent rare occurrences for Oregon.

#### REPORTS OF NOTEWORTHY SPECIES

The following section gives details of species representing range extensions or rare species listed by Oregon Biodiversity Information Center. Voucher data are listed at the end of each entry; all cited specimens are deposited in the herbarium of Oregon State University (OSC).

##### *Collema curtisporum* Degel. – ONHP S1 – Critically Imperiled

This species is distinguished from the sympatric *Collema nigrescens* (Hudson) DC. by its shorter, 4-celled spores. It is thought of as being more common on the east side of the Cascade crest growing on cottonwood, being replaced on the west side by *C. nigrescens* commonly growing on oaks (McCune & Geiser 2009). This pattern seems to hold true for the broader Pacific Northwest (Exeter et al. 2016), but in the case of the CSNM *C. curtisporum* is the more common species. It was found in 26% (14) of the plots as opposed to *C. nigrescens* that occurred in only 2% (1) of plots. This species is from the Cascades-Northern Rockies Western Montane group and highlights the east side montane influence on this area. The local abundance within CSNM may be linked to the proximity of the Klamath River canyon that provides a dispersal corridor where cottonwood and white oak grow in close proximity.

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, oak-pine-fescue habitat, 04.iv.2016, on trunk of *Quercus garryana*, L. Kyan & S. Pierce 6-27 (OSC); 05.iv.2016, T. Carlberg 10-6 (OSC); Cascade-Siskiyou National Monument, in oak-conifer mosaic, 08.iv.2016, D. Stone 29-18 (OSC); Cascade-Siskiyou National Monument, in oak-juniper-fescue habitat type, 21.iv.2016, A. Hardman 212-2 (OSC).

##### *Dendriscaulon intricatulum* (Nyl.) Henssen (oak form)

The genus “*Dendriscaulon*” is actually the fruticose cyanomorphs of foliose species of *Ricasolia*, *Lobaria* or *Sticta*. There are two distinct forms of dendriscauloid lichens known in the Pacific Northwest, the oak-dwelling form and the conifer-dwelling form (McCune & Geiser 2009). It has been speculated that our oak-dwelling form may correspond to *R. amplissima* (Scop.) De Not. (Cornejo et al. 2017) based on one small composite specimen from oak in Northern California (Tonsberg & Goward 2001) but this has not been confirmed with molecular data. This lichen is somewhat common in the Klamath ranges where it occurs on a variety of different oak species. It occurred in four plots in CSNM.

*Specimens examined.* **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-pine habitat, 04.iv.2016, T. Carlberg 13-20 (OSC); Cascade-Siskiyou National Monument, in oak-pine-fescue habitat, 21.iv.2016, A. Hardman 209-33 (OSC), 08.iv.2016, D. Stone 8B-38 (OSC); Cascade-Siskiyou National Monument, in oak-big leaf maple habitat, 21.iv.2016, A. Hardman 219-25 (OSC).

##### *Hypotrachyna revoluta* (Flörke) Hale – ONHP S3 – Vulnerable

This species is currently known from coastal California north to British Columbia where it is locally common. In Oregon it is rare, found on the coast and in the foothills of the Cascades (Exeter et al. 2016). It is tolerant of elevated nitrogen at some coastal sites (McCune 2003). The single record from CSNM is the first for Jackson County, and an eastern outlier population. *Hypotrachyna revoluta* is from the oceanic floristic group and occurs in the CSNM as a rare inland disjunct from the Coast Ranges of Coos and Curry Counties. The occurrence here may be facilitated by the land bridge provided by the Siskiyou crest. Although this species is not yet reported from Josephine County, we predict that targeted searches in the Klamath and Coast Ranges there could turn up new populations of this rare lichen.

*Specimen examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in a closed canopy creekside oak woodland, 06.x.2016, on *Quercus garryana*, J. Villella JNL12-38 (OSC).





Figure 2. *Physconia californica* (A-C, all from Hollinger 4524), *Physconia fallax* (E-F, from Hollinger 1151) and *Placidium fingens* (D, from Stone 9268). A, habit of *P. californica*. B, detail of upper surface of *P. californica*. C, detail of light colored lower surface of *P. californica*. D, thallus of *P. fingens* growing over *Scytinium* on oak branch. E, habit of *P. fallax*. F, detail of hooded soralia in *P. fallax*. Photographs of *P. californica* and *P. fallax* by Jason Hollinger, photograph of *P. fingens* by Daphne Stone. Scale bars as indicated.

***Melanelixia californica* A. Crespo & Divakar**

A species that is mostly restricted to California, it is most frequent in the Sierra Nevada and the southern mountains (Sharnoff 2014). In CSNM this is a representative of the California Madrean floristic group. The specimens cited represent a new species occurrence for Oregon.

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-juniper-fescue habitat, 19.iv.2016, *A. Hardman* 201-9 (OSC); Cascade-Siskiyou National Monument, in open oak savannah grassland, 06.x.2016, on *Quercus garyanna* *J. Villella* JNL 11-01 (OSC).



***Physcia aipolia*** (Ehrh. ex Humb.) Fűrnr.

Recently North American material traditionally identified as *Physcia aipolia* has been critically examined, resulting in most of the material from the Pacific Northwest being recognized as *Physcia alnophila* (Vain.) Loht., Moberg, Myllys & Tehler, with *P. aipolia* s. str. being much rarer in the region (Brodo et al. 2013). *Physcia alnophila* is distinguished as having narrower lobes and apothecia near the margin as opposed to *P. aipolia* that has more central apothecia and wider lobes. *Physcia aipolia* contains several triterpines in addition to atranorin and zeorin that are lacking in *P. alnophila*. Spores on average are smaller in *P. alnophila* although there is a significant area of overlap in this character among individual specimens (Brodo et al. 2013). Of the oak dwelling specimens in CSNM most material is clearly assignable to *P. alnophila*, but four specimens conform morphologically to the species concept for *P. aipolia* in the strict sense.

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in juniper-oak-fescue habitat, 22.iv.2016, *A. Hardman* 225-25 (OSC); Cascade-Siskiyou National Monument, in oak-juniper chaparral, 04.ix.2016, *J. Vilella* JL02-8 (OSC); Cascade-Siskiyou National Monument, in open in oak savannah grassland, 06.x.2016, on *Quercus garryana* *J. Vilella* JNL11-8 (OSC); Cascade-Siskiyou National Monument, in pine-oak mosaic, 18.viii.2106, *J. Vilella* JNL2-09 (OSC).

***Physcia subalbinea*** Nyl.

This species is apparently rare in Oregon, known to grow on rocks in the high desert environments of central Oregon. We found it in two plots as an oak epiphyte. Predominantly rock-dwelling or soil species occurred as oak epiphytes several times during this study (e.g. *Polychidium muscicola* (Sw.) Gray, *Scytinium lichenoides* (L.) Otálora, P. M. Jørg. & Wedin and *Xanthoparmelia* species and this is a pattern seen occasionally in southwestern Oregon.

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in mountain mahogany-oak-fescue habitat, 22.iv.2016, *A. Hardman* 226-33 (OSC); Cascade-Siskiyou National Monument, in oak-conifer woodland, 18.viii.2016, *J. Vilella* JNL1-20 (OSC).

***Physciella chloantha*** (Ach.) Essl.

This very widespread species across North America has not been reported from the Pacific Northwest (McCune & Geiser 2009). The occurrence in CSNM is a new report for Oregon. Its presence in the Cascade-Siskiyou region may represent a relict population from an earlier time when climate conditions were different or a more recent arrival.

*Specimen examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-juniper-fescue habitat, 18.iv.2018, *A. Hardman* 217-19 (OSC).

***Physconia californica*** Essl.

This species is distinguished from the very common species *Physconia americana* Essl. by the lighter underside (Figure 2C). *Physconia californica* has a California Madrean distribution, being common in central to southern California (Jovan 2003, Sharnoff 2014) but it is rare in northern California being known with certainty only from Tehama County (Carlberg et al. 2017). This species was found in two plots in CSNM where it is likely at the northern edge of its range in southwest Oregon.

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-juniper chaparral, 19.iv.2016, *A. Hardman* 200-16 (OSC); Cascade-Siskiyou National Monument, in oak-pine-fescue habitat, 10.iv.2016, *D. Stone* 278-20 (OSC).

***Physconia fallax*** Essl.

Similar to the very common *Physconia enteroxantha* (Nyl.) Poelt, this species is distinguished by the K-, KC- medulla and the tendency of the soralia to be borne in marginal circular pockets, reminiscent of *Xanthoria fallax* Essl. (Figure 2F). *Physconia fallax* has a California Madrean distribution with herbarium records from California and northern Baja California on oaks and rock (CNALH 2018). It was found in the CSNM in eleven plots. There are some nearby sites from northern California where it is common (Jovan





Figure 4. Habit of *Platismatia wheeleri* (Hollinger 9225; photograph by Jason Hollinger).

2003), but this is apparently a new record for Oregon. Jovan (2003) reported that maximum temperature was the best predictor for this species in north-central California. This suggests that increasing temperatures due to climate change could increase the ability of the species to persist in Oregon. This species may be underreported for the Pacific Northwest due to its cryptic nature, as underdeveloped material is difficult to distinguish in the field and it often grows in mixed patches with other *Physconia* species. It is known from one site in Washington on white oak (Esslinger 2000) and is common in southern California where it has an oceanic affinity (Sharnoff 2014).

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-pine-fescue habitat, 04.iv.2016, L. Kyan & S. Pierce 6-11 (OSC), 05.iv.2016, T. Carlberg 10-23 (OSC), 19.iv.2016, A. Hardman 201-16 (OSC); Cascade-Siskiyou National Monument, in oak-conifer mosaic, J. Villella JNL1-16 (OSC).

#### *Placidium fingens* (Breuss) Breuss

This inconspicuous peritheciate lichen is rarely found in western North America where it occurs in two distinct habitats: on soil among crust communities and as an oak epiphyte, always growing over *Scytinium* in the Pacific Northwest (Figure 2D). There are two collections on soil from the same site in Arizona (Breuss 2002), collections on bark from four sites California (Breuss & Bratt 2000), and one on oak bark in Washington (Villella et al. 2013b). In Oregon it has been reported on soil among soil crusts (Root et al. 2011). This report is the first occurrence for Oregon as an oak epiphyte; it was found in two plots. Breuss (2002) stated that epiphytic and soil dwelling material from the American west “agree in all important respects”. However, Prieto et al. (2010) stated that North American material was distinct from Iberian material in having smaller ascospores and longer conidia, also pointing out that this species does not occur as an epiphyte on the Iberian Peninsula. More work is needed to determine if the North American soil or oak-dwelling material is distinct from *P. fingens* s. str.



*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-pine-fescue habitat, 04.iv.2016, *L. Kyan & S. Pierce* 6-39 (OSC), 10.iv.2016, *L. Kyan & S. Pierce* 273-28 (OSC).

***Platismatia wheeleri*** Goward, Altermann & Björk

This species is similar to the widespread *Platismatia glauca* (L.) W.L. Culb. & C. F. Culb. but is distinguished by having marginal, sinuose soralia and no isidia (Figure 3). The distribution of this recently described species is not completely known. In the species description it is characterized as a western montane conifer-dwelling species found in the inland Pacific Northwest (Lumbsch et al. 2011). Allen et al. (2012) reported it from collections in southern California and Slovakia. It has been reported from white oak on the west side of the Cascade crest in the south Puget Sound prairie of Washington State (Villella et al. 2013a). We report it as common on oak in the CSNM, found in equal abundance as *P. glauca*, and in roughly half the plots.

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-juniper chaparral, 19.iv.2016, *A. Hardman* 200-6 (OSC), Cascade-Siskiyou National Monument, in oak-juniper-fescue habitat, 06.iv.2016, *T. Carlberg* 243-26 (OSC). 07.iv.2016, *L. Kyan & S. Pierce* 262-5 (OSC), 08.iv.2016, *D. Stone* 8B-18 (OSC).

***Rostania quadrifida*** (D. F. Stone & McCune) McCune – ONHP S2 – Imperiled

This oak-dwelling cyanolichen species might be confused with a young *Collema curtisporum* or *C. nigrescens* but it is smaller with a thickened margin, abundant apothecia, and cubical ascospores. Our results show that this species is common in the CSNM, occurring in 19% of the plots. Although locally common in the Klamath Mountain ranges this species seems to be rare in the broader Pacific Northwest. This pattern of species being locally abundant in the Klamath-Siskiyou region but otherwise regionally rare is shared by several macrolichens including *Collema curtisporum*, *Scytinium siskiyouensis* (D. F. Stone & Rutchy) Otálora, P. M. Jørg. & Wedin, *S. teretiusculum* (Wallr.) Otálora, P. M. Jørg. & Wedin and *Umbilicaria phaea* var. *coccinea* Llano.

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-juniper-fescue habitat, 04.iv.2016, *L. Kyan & S. Pierce* 6-35(OSC), 08.iv.2016, *D. Stone* 27-26 (OSC); Cascade-Siskiyou National Monument, in oak-pine habitat, 04.iv.2016, *T. Carlberg* 13-27 (OSC); Cascade-Siskiyou National Monument, in oak savannah, 03.ix.2016, *J. Villella* 159-20 (OSC).

***Xanthoria parietina*** (L.) Th. Fr.

Although there are several early reports of this species from Oregon (Lindblom 1997), most collections are from recent times in nitrogen-enriched settings (McCune 2003). In 2000 this species was collected from Lithia Park in Ashland (LAQD 2018) and is currently somewhat common on street trees in the urban areas of the Rogue Valley (J. Villella personal observation). It was found in three plots within CSNM and due to its pollution tolerant nature (McCune & Geiser 2009) it may become more common within the Monument if air quality conditions deteriorate.

*Specimens examined.* – **U.S.A. OREGON.** JACKSON CO: Cascade-Siskiyou National Monument, in oak-juniper chaparral, 19.iv.2016, *A. Hardman* 200-29 (OSC); Cascade-Siskiyou National Monument, in oak-juniper-fescue habitat, 19.iv.2016, *A. Hardman* 201-21 (OSC).

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### Appendix I – Macrolichens of *Quercus garryana* in the Cascade-Siskiyou National Monument

Nomenclature follows Esslinger (2018). Bolded species are listed with ORBIC. Species recommended for conservation ranking in Oregon are denoted with an asterisk (\*). Floristic group is denoted as: (PT) pan-temperate, (NW) Pacific Northwest temperate, (WT) west temperate, (WM), western montane, (OC) oceanic, (CM) California madrean.

- |  |  |
|--|--|
| <i>Ahtiana sphaerosporella</i> (Müll. Arg.) Howard - WM          | <i>Kaernefeltia merrillii</i> (Du Rietz) A. Thell & Goward – OC    |
| <i>Alectoria sarmentosa</i> (Ach.) Ach. – NW                     | <i>Leptogium pseudofurfuraceum</i> P. M. Jørg. & Wallace – WT      |
| <i>Bryoria capillaris</i> (Ach.) Brodo & D. Hawksw. – NW         | <i>Leptogium saturninum</i> (Dickson) Nyl. – PT                    |
| <i>Bryoria fremontii</i> (Tuck.) Brodo & D. Hawksw. – NW         | <i>Letharia columbiana</i> (Nutt.) J. W. Thomson – NW              |
| <i>Bryoria fuscescens</i> (Gyeln.) Brodo & D. Hawksw. – PT       | <i>Letharia vulpina</i> (L.) Hue – WT                              |
| <i>Bryoria pseudofuscescens</i> (Gyeln.) Brodo & D. Hawksw. – NW | <i>Lobaria anomala</i> (Brodo & Ahti) T. Sprib. & McCune – OC      |
| <i>Bryoria simplicior</i> (Vain.) Brodo & D. Hawksw. – WM        | <i>Lobaria anthraspis</i> (Ach.) T. Sprib. & McCune – OC           |
| <i>Candelaria pacifica</i> M. Westb. & Arup – WT                 | <i>Lobaria hallii</i> (Tuck.) Zahlbr. – OC                         |
| <i>Cetraria chlorophylla</i> (Willd.) Hale – NW                  | <i>Lobaria pulmonaria</i> (L.) Hoffm. – OC                         |
| <i>Cetraria orbata</i> (Nyl.) Fink – NW                          | <i>Melanelixia californica</i> A. Crespo & Divakar – CM            |
| <i>Cetraria platyphylla</i> Tuck. – NW                           | <i>Melanelixia glabratula</i> (Lamy) Sandler & Arup – OC           |
| <i>Cladonia chlorophaea</i> (Flörke ex Sommerf.) Sprengel – PT   | <i>Melanelixia subargentifera</i> (Nyl.) O. Blanco et al. – PT     |
| <i>Cladonia fimbriata</i> (L.) Fr. – PT                          | <i>Melanohalea elegantula</i> (Zahlbr.) O. Blanco et al. – WT      |
| <b><i>Collema curtisporum</i></b> Degel. – WM                    | <i>Melanohalea exasperatula</i> (Nyl.) O. Blanco et al. – WM       |
| <i>Collema nigrescens</i> (Hudson) DC. – OC                      | <i>Melanohalea multispora</i> (A. Schneider) O. Blanco et al. – NW |
| <i>Dendroica intricatulum</i> (Nyl.) Henssen – OC                | <i>Melanohalea subelegantula</i> (Essl.) O. Blanco et al. – OC     |
| <i>Evernia prunastri</i> (L.) Ach. – NW                          | <i>Melanohalea subolivacea</i> (Nyl.) O. Blanco et al. – NW        |
| <i>Hypogymnia enteromorpha</i> (Ach.) Nyl. – OC                  | <i>Nephroma helveticum</i> Ach. – OC                               |
| <i>Hypogymnia imshaugii</i> Krog – NW                            | <i>Nephroma resupinatum</i> (L.) Ach. – NW                         |
| <i>Hypogymnia physodes</i> (L.) Nyl. – WM                        |  |
| <i>Hypogymnia tubulosa</i> (Schaerer) Hav. – NW                  |  |
| <i>Hypogymnia wilfiana</i> Goward, T. Sprib. & Ahti – WM         |  |
| <b><i>Hypotrachyna revoluta</i></b> (Flörke) Hale – OC           |  |

*Nodobryoria abbreviata* (Müll. Arg.) Common & Brodo – NW  
*Nodobryoria oregana* (Tuck.) Common & Brodo – NW  
*Normandina pulchella* (Borrer) Nyl. – OC  
*Parmelia barrenoae* Divakar, M. C. Molina & A. Crespo – WT  
*Parmelia hygrophila* Goward & Ahti – NW  
*Parmelia sulcata* Taylor – PT  
*Parmeliopsis hyperopta* (Ach.) Arnold – PT  
*Peltigera canina* (L.) Willd. – WM  
*Peltigera collina* (Ach.) Schrader – NW  
*Peltigera membranacea* (Ach.) Nyl. – OC  
*Peltigera ponojensis* Gyelnik – WM  
*Peltigera praetextata* (Flörke ex Sommerf.) Zopf – WM  
*Phaeophyscia orbicularis* (Necker) Moberg – WT  
*Physcia adscendens* (Fr.) H. Olivier – PT  
*Physcia aipolia* (Ehrh. ex Humb.) Fűrnr. – PT  
*Physcia alnophila* (Vainio) Loht., Moberg, Myllys & Tehler – PT  
*Physcia biziana* (A. Massal.) Zahlbr. – WT  
*Physcia stellaris* (L.) Nyl. – PT  
*Physcia subalbinea* Nyl. – WT  
*Physcia tenella* (Scop.) DC. – OC  
*Physciella chloantha* (Ach.) Essl. – PT  
*Physconia americana* Essl. – OC  
*Physconia californica* Essl. \* – CM  
*Physconia enteroxantha* (Nyl.) Poelt – WT  
*Physconia fallax* Essl. \* – CM  
*Physconia isidiigera* (Zahlbr.) Essl. – WM  
*Physconia perisidiosa* (Erichsen) Moberg – WT  
*Placidium fingens* (Breuss) Breuss \* – CM  
*Platismatia glauca* (L.) W. L. Culb. & C. F. Culb. – OC  
*Platismatia wheeleri* Goward, Altermann &

Björk – WM  
*Polycauliona candelaria* (L.) Frödén, Arup, & Söchting – OC  
*Polycauliona polycarpa* (Hoffm.) Frödén, Arup, & Söchting – OC  
*Polychidium muscicola* (Sw.) Gray – WM  
*Ramalina farinacea* (L.) Ach. – OC  
***Rostania quadrifida* (D. F. Stone & McCune) McCune – OC**  
*Scytinium cellulosum* (P. M. Jørg. & Tønsberg) Otálora, Jørg. & Wedin – OC  
*Scytinium lichenoides* (L.) Otálora, P. M. Jørg. & Wedin – WM  
*Scytinium tacomae* (P. M. Jørg. & Tønsberg) McCune – NW  
*Scytinium teretiusculum* (Wallr.) Otálora, P. M. Jørg. & Wedin – PT  
*Usnea cavernosa* Tuck. – PT  
*Usnea cornuta* Körber – PT  
*Usnea diplotypus* Vainio – PT  
*Usnea glabrata* (Ach.) Vainio – WT  
*Usnea hirta* (L.) Weber ex F. H. Wigg. – PT  
*Usnea pacificana* P. Halonen – OC  
*Usnea perplexans* Striton – WT  
*Usnea scabrata* Nyl. – WT  
*Usnea substerilis* Motyka – WT  
*Usnea wasmuthii* Räsänen – OC  
*Waynea californica* Moberg – CM  
*Xanthomendoza hasseana* (Räsänen) Söch., Kärnefelt & S.Y.Kondr. – PT  
*Xanthomendoza oregana* (Gyelnik) Söch., Kärnefelt & S.Y.Kondr. – WT  
*Xanthoparmelia* sp. – WM  
*Xanthoria parietina* (L.) Th. Fr. – PT



## New combinations and notes on *Buellia* and *Rostania*

GARY B. PERLMUTTER<sup>1</sup> AND EIMY RIVAS PLATA<sup>2</sup>

**ABSTRACT.** – *Buellia pleiotera* is here noted as the correct name for of *B.* "pleiotropa". New combinations are proposed for *Hafellia fosteri* and *Collema occultum* var. *populinum* to further complete the taxonomic transfers to *Buellia* and *Rostania*, respectively.

**KEYWORDS.** – Nomenclature, Caliciaceae, Collemataceae.

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### INTRODUCTION

During the course of updating the taxonomy and distributions of lichens in North America for the USDA PLANTS database (<http://plants.usda.gov/>) in 2015–2016, we discovered some taxa that appeared to have been orphaned by taxonomic changes at higher levels. Here we report our investigations into these taxa and propose changes for each, including two new combinations.

#### I. *HAFELLIA BAHIANA* VAR. "PLEIOTROPA" SHOULD BE CORRECTED TO "PLEIOTERA"

*Buellia pleiotera* Malme, in Arkiv for Botanik 21A (14): 7. 1927. ≡ *Hafellia pleiotera* (Malme) Marbach, Bibliotheca Lichenologica 74: 274. 2000. ≡ *Hafellia bahiana* var. *pleiotera* [as "pleiotropa"] (Malme) Sheard, The Bryologist 95: 82. 1992. **TYPE: BRAZIL, MATO GROSSO:** Cuyaba, 1893, *Malme 2027B* (S[n.v.], holotype).

We first encountered the name *Hafellia bahiana* var. *pleiotropa* (Malme) Sheard in the USDA PLANTS database. The database lists five taxa in the genus *Hafellia* Kalb, H. Mayrhofer & Scheid., three of which we were able to readily update based on the then-current version of North American lichen checklist (Esslinger 2015). Esslinger (2015, 2018) listed *H. bahiana* var. *pleiotropa* as a synonym of *Buellia bahiana* var. *pleiotropa* Malme; however, the latter name is neither listed in nomenclatural databases such as Index Fungorum nor references such as the *Catalogus Lichenum Universalis* (Zahlbruckner 1931: 339, 389). While Index Fungorum lists the basionym of *H. bahiana* var. *pleiotropa* as "*B. pleiotropa* Malme", the database record for the latter does not include a bibliographic citation. The MycoBank database lists the same name as "*Buellia pleiotropa* (?) Malme"; however, that record also lacks a bibliographic citation.

In consultation with Frank Bungartz and John Sheard, we learned that Sheard (1992) erroneously introduced the epithet "*pleiotropa*" in his treatment of North American *Hafellia*. In that work, Sheard cited "Ark. Bot. 21 A: 18, 1927" as the place of publication for *B. pleiotropa* when he made the combination *H. bahiana* var. *pleiotropa*. Examination of the cited work by Malme (1927: 18) revealed that the epithet was published as "*pleiotera*" rather than "*pleiotropa*" and the latter spelling introduced by Sheard (1992) was almost certainly a *lapsus calami* as had already been noted by Marbach (2000: 275). We agree with Marbach (2000) that the use of "*pleiotropa*" by Sheard (1992) should be treated as a correctable error, and that "*H. bahiana* var. *pleiotropa*" and "*B. bahiana* var. *pleiotropa*" should be indexed as such on the North American checklist.

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## II. TRANSFER OF *HAFELLIA FOSTERI* TO *BUELLIA*

***Buellia fosteri* (Imshaug & Sheard) Perlmutter & Rivas Plata, comb. nov.**

Mycobank #827050.

≡ *Hafellia fosteri* Imshaug & Sheard, Bryologist 95: 85. 1992. **TYPE: U.S.A., WASHINGTON:** Pacific Beach, old roots and logs on beach, 5.III.1911, *Foster s.n.* (FH[n.v.], holotype).

*Hafellia* was rendered synonymous with *Buellia* De Not. when a proposal to replace the conserved type, *B. disciformis* (Fr.) Mudd, with *B. aethalea* (Ach.) Th. Fr., was not recommended by the Nomenclature Committee of Fungi (NCF), which is part of the International Association for Plant Taxonomy (Gams 2004, Moberg 1999). That proposal had attempted to retain *B. disciformis* as the type for *Hafellia*, as *H. disciformis* (Fr.) Marbach & H. Mayrhofer, so that the name could continue to be applied to a distinctive group of crustose lichens with thickened ascospore walls that had historically been treated in *Buellia*. The NCF declined to endorse the proposal to change the type of *Buellia* and deferred action pending more comprehensive understanding of the taxonomy and phylogeny of the genus. As a result, all taxa treated in *Hafellia* should be transferred to *Buellia* until a change in the typification is formally approved.

*Hafellia fosteri* is listed in USDA PLANTS as “accepted”. In Esslinger (2018) it is listed under *Buellia* as “[*Hafellia fosteri* Imshaug & Sheard]” with the brackets indicating placement in *Buellia* despite the absence of a published combination. The name for this species was originally introduced as “*Buellia fosteri*” by Henry Imshaug in his Ph.D dissertation (Imshaug 1951). However, it was not subsequently, validly published. Sheard (1992) described this taxon as a new species in his treatment of North American *Hafellia*, crediting Imshaug as a coauthor but validating the name in *Hafellia* instead of *Buellia* (Sheard 1992). Now that *Hafellia* must be treated as a synonym of *Buellia*, we provide a validly published combination in *Buellia*.

## III. TRANSFER OF *COLLEMA OCCULTATA* VAR. *POPULINA* TO *ROSTANIA*

***Rostania occultata* var. *populina* (Th. Fr.) Perlmutter & Rivas Plata, comb. nov.**

Mycobank #827051.

≡ *Collema verruciforme* f. *populinum* Th. Fr., Nova Acta Regiae Societatis Scientiarum Upsaliensis 3: 379. 1861. ≡ *Collema occultatum* Bagl. var. *populinum* (Th. Fr.) Degel., Symbolae Botanicae Upsalienses 13(2): 245. 1954. **TYPE: NORWAY, NORDLAND:** Saltdal, Saltdalen, no date, *Sommerfelt s.n.* (UPS[n.v.], holotype).

The *Collema occultatum*-group was transferred to the resurrected genus *Rostania* Trevis. by Otálora et al. (2014). However, the variety *populinum* was not formally included in the transfer. *Collema occultatum* var. *populinum* is known from Alabama to California in the United States (Degelius 1974); however, it is not currently listed in the North American lichen checklist (Esslinger 2018). We propose the new combination to complete the transfer of available names in the *C. occultatum*-group to *Rostania*. We also recommend it be added to the North American lichen checklist.

## ACKNOWLEDGEMENTS

We thank taxonomic experts Frank Bungartz, Monica Otálora, John Sheard and Mats Wedin for their insight. This study was conducted as part of a contract between UNC-Chapel Hill and USDA NRCS to update the taxonomy, nomenclature and distribution of lichens occurring in the contiguous United States for the USDA PLANTS database. Therefore, we thank Doug Goldman and Gerry Moore for reaching out to us for the opportunity to carry out this project, as well as to Alan Weakley for acting as its Principal Investigator. Finally, we thank James Lendemer and an anonymous reviewer for comments and editing that improved the manuscript considerably.

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## Discovery of *Coenogonium isidiatum* (Coenogoniaceae, Ostropomycetidae) disjunct in northeastern Asia

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**ABSTRACT.** – *Coenogonium isidiatum* is reported new to Russia from the Far East, constituting a considerable northern range extension for the species. Morphology, ecology and distribution of the species are discussed. Molecular data (mrSSU and nrITS DNA sequences) were obtained from the material and phylogenetic analyses recovered these as a strongly supported and monophyletic with respect to other sequenced *Coenogonium* species.

**KEYWORDS.** – Biogeography, distribution, isidia, Kurile Islands, Kamchatka, Sakhalin, sterile crustose lichens.

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### INTRODUCTION

*Coenogonium* Ehrenb. is characterized by filamentous or crustose thalli, biatorine (sometimes zeorine) apothecia with yellow to orange or brownish discs, paraplectenchymatous exciples, partially amyloid hymenia, unitunicate asci with entirely thin walls, and two-celled (rarely simple), colorless ascospores, and trentepohlioid photobionts (Ferraro & Michlig 2013, Lücking 2008, Rivas Plata et al. 2006). Currently the genus comprises about 130 species of mainly tropical to subtropical lichens (Gagarina 2015). Originally the genus *Coenogonium* consisted of species with filamentous thalli only and those with crustose thalli were included into the separate genus *Dimerella* Trevis (Vězda & Poelt 1975). However, studies on morphology, anatomy and phylogeny suggested that *Dimerella* should be merged with *Coenogonium* (Kauff & Lutzoni 2002, Lücking & Kalb 2000, Lücking 2008, Rivas Plata et al. 2006).

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Altogether 14 species of *Coenogonium* are known from extratropical Eurasia (Gagarina 2015), and two of those have been previously reported from Russia: *C. luteum* (Dicks.) Kalb & Lücking and *C. pineti* (Schrader ex Ach.) Lücking & Lumbsch (Gagarina 2017). Both species are widely distributed in boreal and temperate forests in Russia (Gagarina 2015, 2017), with the other extratropical Eurasian species having been reported from Southeastern Asia (South Korea (Kondratyuk et al. 2016), Japan and China (Obermayer 2004). Here we report the discovery of *C. isidiatum* (G. Thor & Vězda) Lücking, Aptroot & Sipman in the Russian Far East, a remarkable range extension of the species into northeastern Asia.

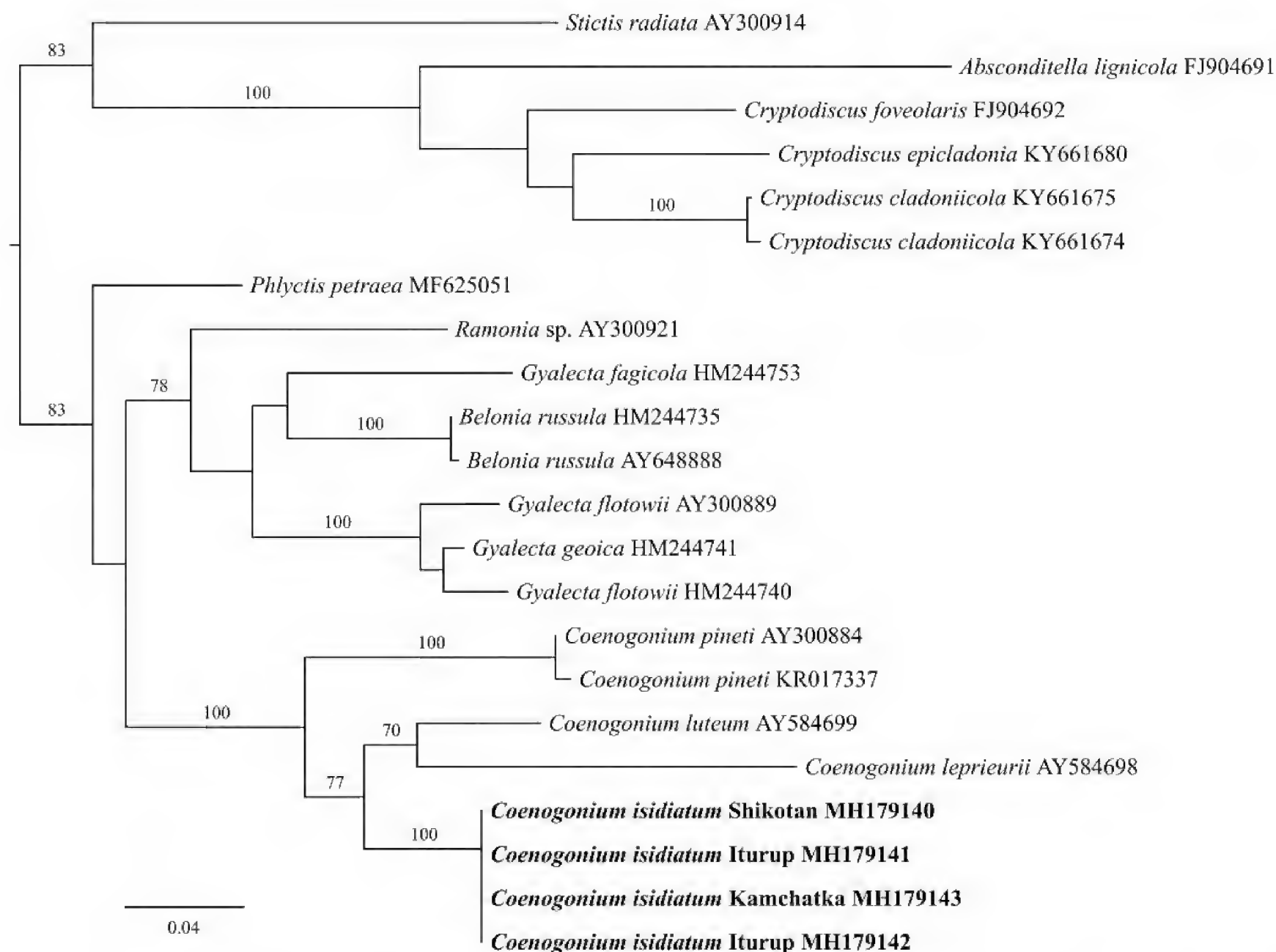
## MATERIALS AND METHODS

*Field and herbarium study.* – Specimens were collected by Liudmila Konoreva and Sergey Chesnokov on Sakhalin, Shikotan and Iturup Islands in the Sakhalin Region of Russia in 2017, and by Irina Stepanchikova on the Kamchatka Peninsula in the Kamchatka Territory of Russia in 2016. The specimens were deposited in the lichen herbaria of the Komarov Botanical Institute of the Russian Academy of Sciences (LE) and the University of Helsinki (H). The material was examined by the authors in the Laboratory of Lichenology and Bryology of Komarov Botanical Institute, using standard microscopic techniques (Smith et al. 2009). High Performance Thin Layer Chromatography (HPTLC) was performed according to standard procedures (Culberson & Ammann 1979, Kranner et al. 2002), using solvent system A. Photographs of the species were taken with a Stemi-2000 CS microscope with an attached AxioCam MRc5 camera. The distribution map was prepared using MapInfo GIS software. Geographical coordinates are given in spatial reference system WGS 1984. Ludmila Gagarina revised specimens in the herbaria of the Museum of Evolution, Uppsala University (UPS) and the Swedish Museum of Natural History, Stockholm (S), including the type specimen of *Coenogonium isidiatum*.

*Molecular data generation and analyses.* – Extraction of DNA and PCR amplification were performed following Cubero et al. (1999). We used the primer pairs mrSSU1 and mrSSU3R (Zoller et al. 1999), and ITS1F (Gardes & Bruns 1993) and ITS4 (White et al. 1990) for the production of mrSSU and nrITS rDNA sequences. Amplicons were sequenced at Eurogen (Moscow)®. Chromatograms were edited in FinchTV 1.4.0 (Geospiza, Inc.; Seattle, WA, USA), then resulting sequences were assembled in BioEdit 7.2.5 (Hall 1999) and aligned online by MAFFT version 7 (Kato & Standley 2013) with the L-INS-i method (Kato et al. 2005). The alignment was manually checked and adjusted in BioEdit 7.2.5. Newly generated sequences were uploaded into the NCBI (GenBank); accession numbers are provided (see Table 1 in the appendix). The alignment was deposited in TreeBASE (Submission ID 23107). Our sequences of mrSSU were aligned together with all *Coenogonium* mrSSU sequences available in GenBank (see Table 1 in the appendix). Species of the order Ostropales were selected as an outgroup (see e.g. the phylogenetic reconstruction by Resl et al. 2015). ITS sequences were not used in the phylogenetic reconstructions. Maximum likelihood reconstruction was carried out in RAxML (Stamatakis et al. 2005) through the RAxMLGUI interface (Silvestro & Michalak 2012); the GTR+G model was chosen with jModelTest 0.1.1 (Guindon & Gascuel 2003; Posada 2008). Bootstrap support values were calculated on 500 bootstrap replicates using rapid bootstrapping (“ML + rapid bootstrap” function in RAxMLGUI). The whole original alignment (including ambiguously aligned regions) was used in the analysis; gaps were treated as missing data. Pairwise genetic distances between ITS sequences were calculated in PAUP under the JC model of evolution. The mean and standard deviation of the pairwise distances were calculated in Excel.

## RESULTS AND DISCUSSION

We generated four new mrSSU sequences from samples identified as *Coenogonium isidiatum* collected on the Kamchatka Peninsula, Sakhalin Island and Kurile Islands. The four sequences were recovered in a strongly supported clade (ML BP: 100) within a strongly supported and monophyletic *Coenogonium* (ML BP: 100) (Figure 1). All our mrSSU sequences were 100% identical to each other. We also generated five new nrITS sequences from the same material (see Table 1 in the appendix), and these included some variable positions. The calculated mean pairwise distance and standard deviation for our nrITS sequences ( $0.0054 \pm 0.004$ ) corresponds well to the reported intraspecific variability of ITS sequences in the genus *Phlyctis*, which is also placed in the order Ostropales (Muscavitch et al. 2017). Hence, molecular data support a morphologically based hypothesis that our specimens belong to one species of the genus *Coenogonium*. Unfortunately, no previously published sequences of *C. isidiatum*



**Figure 1.** Phylogeny of the genus *Coenogonium* and closely related groups in the Ostropomycetidae inferred from mrSSU sequences and presented as the most likely tree. Numbers on branches represent maximum likelihood bootstrap values  $\geq 70\%$ . Newly sequenced samples are indicated by bold text.

were available in GenBank, hence the molecular data cannot be used to confirm the identification of our samples that was based on morphological data. We did attempt to generate sequences from the Brazil specimen that we examined (see below), however these were unsuccessful, probably because of the age of the material. Given that *Coenogonium* is a species-rich genus, it is surprising that there are relatively little molecular data available for the group in GenBank. Assembling a comprehensive molecular dataset and phylogeny for the genus is an important avenue for future research, particularly for examining character evolution and confirming the broad geographic distributions of species such as *C. isidiatum*. Below we provide a taxonomic treatment of *C. isidiatum*, including a description of the material from the Russian Far East.

***Coenogonium isidiatum* (G. Thor & Vězda) Lücking, Aptroot & Sipman**, Fun. Divers. 23: 297. 2006.  $\equiv$  *Dimerella isidiata* G. Thor & Vězda, Folia Geobot. Phytotax. 19: 72. 1984. **TYPE: NEPAL:** No 4 West (Nuwakot) district, 32 km NW Pokhara, 12 km NW Ghandrung, 28°22'N, 83°45'E, in mixed coniferous-deciduous forest, 3050 m, 01.xii.1979, G. Thor 1479 (S-L2268!), holotype).

## FIGURE 2.

**DESCRIPTION OF STUDIED SPECIMENS.** – Thallus crustose, homoiomerous, thin, smooth, green-grey to grey with bluish tinge; cortex 10–30  $\mu$ m thick; medulla not differentiated. Prothallus not seen (absent in type). Isidia numerous, coralloid, 0.2–0.4 mm tall, simple or slightly branched, concolorous with thallus. Apothecia scattered, sessile, rounded, constricted at the base, (0.5–)0.7–1.2(–1.9) mm in diameter (1.5–2 mm in diam. in type material), 0.4 mm tall. Margin concolorous with disc, epruinose, smooth. Disc waxy to orange red, flat or later slightly convex, epruinose. True exciple paraplectenchymatous, colorless, 85  $\mu$ m





**Figure 2.** *Coenogonium isidiatum* from Mizhulsky Ridge on Sakhalin Island in Russia (L. Konoreva 198, LE L-14441). Scale = 2 mm. Photograph by S. Chesnokov, 2018.

thick (up to 100  $\mu\text{m}$  in type material), below hymenium 100–150  $\mu\text{m}$  thick (up to 120  $\mu\text{m}$  in type material). Epithecium colourless or yellowish, non-granular, 5–10  $\mu\text{m}$  thick. Hymenium colorless, 82–113  $\mu\text{m}$  high (up to 80–100  $\mu\text{m}$  in type material), J+ blue. Hypothecium yellowish, 10–20  $\mu\text{m}$  high. Paraphyses simple, with tips slightly enlarged up to 4  $\mu\text{m}$ . Asci cylindrical, *Catillaria*-type, with 8 ascospores. Ascospores 1-septate, ellipsoid, colourless, 10–13  $\times$  2.5–3.5  $\mu\text{m}$  (up to 9–14  $\times$  3–4  $\mu\text{m}$  in type material), 2.5–3.5 times as long as broad. Pycnidia not seen. Photobiont *Trentepohlia*, cells subglobose, without characteristic chains, 9–15  $\mu\text{m}$  in diameter.

CHEMISTRY. – No substances detected by HPTLC. Spot tests: (thalus cortex and medulla): K-, C-, KC- and P-, UV-.

ECOLOGY AND DISTRIBUTION. – Until now, *Coenogonium isidiatum* has been reported primarily from subtropical and tropical latitudes (Figure 3), albeit primarily high elevations of mountainous regions that are unlike low elevations ecosystems at the same latitudes (e.g., the type locality in Nepal; Thor & Vězda 1984). It has been reported from diverse substrates including the bark of trees, mosses, and rocks. The previously published reports from Asia were largely based on material collected well above sea-level, ranging from approximately 1000 meters elevation (North Korea: Szerdahelyi & Lőkös 1992, Vězda 1988; South Korea: Kondratyuk et al. 2016) to between 3000 and 4300 meters elevation (China: see specimens cited herein; Thor & Vězda 1984). The report from Sri Lanka (Weerakoon & Aptroot 2014) also appears to be based on material collected from a mountainous area, although specific locality data were not provided in the publication. Collections from the New World appear to mostly be derived from low elevations (e.g.,





**Figure 3.** Global distribution of *Coenogonium isidiatum* as presently known. Red dots = newly documented records, blue dots = records from the literature and herbaria.

U.S.A.: Seavey & Seavey 2014, from swamps near sea level; Argentina: Ferraro & Michlig 2013, from ~56 meters elevation). However, the reports from Costa Rica (Rivas Plata et al. 2006) and Brazil (Cáceres et al. 2014) did not provide specific locality data.

Given the broad elevational range of the species as reported in the literature, it is noteworthy, but not necessarily surprising, that the species was found in Far Eastern Russia. Our records expand the range of the species to the boreal zone of the Northern Hemisphere (southern taiga of Sakhalin and Kurile Islands and northern taiga of the Kamchatka Peninsula). The northernmost record in Kamchatka occurs in a unique oceanic spruce forest in Central Kamchatka, which is probably a pre-glacial relict (Dirksen et al. 2013). Primeval spruce forests of the Nikolka Volcano are also refugia for the globally rare lichen *Erioderma pedicellatum* (Hue) P. M. Jørg. and other rare and protected stenotopic species (Vyatkina et al. 2016).

**DISCUSSION.** – *Coenogonium isidiatum* is morphologically close to *C. isidiigerum* (Vězda & Osorio) Lücking, Aptroot & Sipman and *C. isidiosum* (Breuss) Rivas Plata, Lücking, L. Umaña & Chaves. *Coenogonium isidiigerum* differs by the presence of a white hypothallus and in having much longer ascospores (20–24 µm vs. 10–13 µm in *C. isidiatum*). *Coenogonium isidiosum* can be distinguished by its narrower ascospores (up to 2.5–3 µm width, 4–5 times as long as broad vs. 2.5–4 µm width, 2.5–3.5 times as long as broad in *C. isidiatum*) and brown-yellowish apothecial disc (vs. waxy to orange red of *C. isidiatum*) (Rivas Plata et al. 2006, Gagarina 2015).

*Additional specimens examined.* – **RUSSIA. SAKHALIN REGION. SAKHALIN ISLAND:** vicinity of city of Yuzhno-Sakhalinsk, Mizhulsky Ridge, 47°03'01"N, 142°30'37"E, 532 m, *Picea* sp.-*Betula* sp. forest on slope, 20.v.2017, on bark of *Picea* sp., L. Konoreva 198 (H, LE L-14441); Tomarinsky District, protected area "Krasnogorsky", vicinity of Lake Uglovskoe, 48°34'55"N, 141°58'38"E, 48 m, *Abies sachalinensis* forest with *Betula* sp. and *Taxus cuspidata*, 14.v.2017, on bark of *Abies sachalinensis*, L. Konoreva 102 (LE L-14440). **ITURUP ISLAND:** protected area "Ostrovnoy", Stokap Volcano, Kraterny Creek, 44°51'01"N, 147°17'44"E, 122 m, rocks in valley of creek, 15.viii.2017, on mosses over rocks, L. Konoreva 606 (LE L-14436); protected area "Ostrovnoy", Stokap Volcano, Kraterny Creek, 44°50'25"N, 147°17'44"E, 369 m, *Picea* sp. forest on slope, 15.viii.2017, on mosses over rocks, L. Konoreva 618 (LE L-14437). **SHIKOTAN ISLAND:** Notoro Mountain, 43°46'10"N, 146°41'56"E, 232 m., rocky outcrop, 14.vi.2017, on plant debris, S. Chesnokov 167 (LE L-14439); Notoro Mountain, 43°46'13"N, 146°41'43"E, 304 m, on rocks among mosses and on soil, 14.vi.2017, S. Chesnokov 172 (LE L-14438). **KAMCHATKA TERRITORY. MIL'KOVO DISTRICT:** northern slope of Nikolka Mountain, 55°24'14"N, 159°49'57"E, 573 m, *Picea ajanensis* pristine forest with *Betula ermanii*, on slope, 21.viii.2016, on mossy base of old

spruce, *I. Stepanchikova Nik-1790* (LE L-14442). **BRASIL. SERGIPE:** Parque dos Falcões, just E of Itabaiana, 10°44'50"S, 37°22'39"W, 400 m, transitional forest, 11.xi.2012, on tree bark, *M. Cáceres & A. Aptroot 15039* (hb. Aptroot). **CHINA. TIBET:** Himalaya Range, 280 km SEE of Lhasa, 40 km SW of Mainling, 4300 m, *Juniperus-Rhododendron* forest, 12.viii.1994, on dead *Juniperus* bark, *W. Obermayer 6072* (UPS L-153698).

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#### APPENDIX – MOLECULAR VOUCHER METADATA

The table below presents the specimens and GenBank accession numbers used in the molecular component of this study, together with their voucher information. New sequences generated for this study are indicated in bold.

Species	Voucher; location	mrSSU accession	ITS accession
<i>Absconditella lignicola</i>	Baloch et al. (2009)	FJ904691	—
<i>Belonia russula</i>	Grube et al. (2004)	AY648888	—
<i>Belonia russula</i>	Baloch et al. (2010)	HM244735	—
<b><i>Coenogonium isidiatum</i></b>	<b>Chesnokov LE-L-14438; Shikotan</b>	<b>MH179140</b>	<b>MH179135</b>
<b><i>Coenogonium isidiatum</i></b>	<b>Konoreva LE-L-14437; Iturup</b>	<b>MH179141</b>	<b>MH179136</b>
<b><i>Coenogonium isidiatum</i></b>	<b>Konoreva LE-L-14436; Iturup</b>	<b>MH179142</b>	<b>MH179137</b>
<b><i>Coenogonium isidiatum</i></b>	<b>Konoreva LE-L-14441; Sakhalin</b>	—	<b>MH179138</b>
<b><i>Coenogonium isidiatum</i></b>	<b>Konoreva LE-L-14440; Sakhalin</b>	—	<b>MH179139</b>
<b><i>Coenogonium isidiatum</i></b>	<b>Stepanchikova LE-L-14442; Kamchatka</b>	<b>MH179143</b>	—
<i>Coenogonium leprieuri</i>	Lutzoni et al. (2004)	AY584698	—
<i>Coenogonium luteum</i>	Lutzoni et al. (2004)	AY584699	—
<i>Coenogonium pineti</i>	Lumbsch et al. (2004)	AY300884	—
<i>Coenogonium pineti</i>	Resl et al. (2015)	KR017337	—

TABLE CONTINUED FROM PAGE 328.

Species	Voucher; location	mrSSU accession	ITS accession
<i>Cryptodiscus cladoniicola</i>	Pino-Bodas et al. (2017)	KY661675	—
<i>Cryptodiscus cladoniicola</i>	Pino-Bodas et al. (2017)	KY661674	—
<i>Cryptodiscus epicladonia</i>	Pino-Bodas et al. (2017)	KY661680	—
<i>Cryptodiscus foveolaris</i>	Baloch et al. (2009)	FJ904692	—
<i>Gyalecta fagicola</i>	Baloch et al. (2010)	HM244753	—
<i>Gyalecta flotowii</i>	Lumbsch et al. (2004)	AY300889	—
<i>Gyalecta flotowii</i>	Baloch et al. (2010)	HM244740	—
<i>Gyalecta geoica</i>	Baloch et al. (2010)	HM244741	—
<i>Phlyctis petraea</i>	Muscavitch et al. (2017)	MF625051	—
<i>Ramonia</i> sp.	Lumbsch et al. (2004)	AY300921	—
<i>Stictis radiata</i>	Lumbsch et al. (2004)	AY300914	—

## Neotypification of *Sarcogyne integra* (Acarosporaceae)

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**ABSTRACT.** – The holotype of *Sarcogyne integra* was lost during World War II. A revised description of the species is provided, and a neotype is designated from material collected in Montana, U.S.A.

**KEYWORDS.** – Brouard, calciphiles, calciphytes, New Mexico, taxonomy.

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### INTRODUCTION

In 1926, though he could still hike 20 miles a day at the age of 60, Brother Gerfroy Arsène Brouard (1867–1938, Figure 1) moved to Las Vegas, New Mexico, for his health. He was a brother of the Catholic teaching order of the Christian Brothers and taught science in their private schools (Johnson & Johnson 2018). The move must have been beneficial for his health. He collected over 1800 specimens of plants and bryophytes in Santa Fe and Las Vegas. The total amount of his New Mexican lichen collections is unknown, but he assembled over 799 lichen specimens in 1935 and 1936 alone and his collection numbers reached more than 23,000 in 1936 (CNALH 2018). He died in 1938 at the age of 72.

Brouard sent most of his lichen specimens from North America to the French lichenologist Maurice Bouly de Lesdain (Bouly de Lesdain 1914, 1921, 1932). Based on Brouard's collections, A.H. Magnusson published several new species of *Acarospora* A. Massal. and *Sarcogyne* Flot. from New Mexico, depositing the types in Bouly des Lesdain's herbarium (Magnusson 1930, 1935a).

*Sarcogyne* is a genus of crustose lichenized fungi with polyspored asci and lecideine apothecia, with the margin melanized (parathecial hyphae in matrix of thick reddish brown or black pigment) or carbonized (parathecial hyphae apparently dead) (Knudsen & Standley 2007; Magnusson 1935a, 1935b, 1937). The genus grows on calcareous, non-calcareous rock and in biotic soil crusts in the northern and southern hemisphere and can have either an endolithic or epilithic thallus. There are approximately 36 described species in the genus worldwide based on our own estimation (Index Fungorum 2018; Knudsen & Kocourková 2018). Seventeen species have been reported from North America (Esslinger 2018).

Brouard made fewer than ten collections of *Sarcogyne* in New Mexico (Bouly de Lesdain 1932, Magnusson 1935a). Nonetheless, based on single specimens Bouly de Lesdain described *S. magnussonii* B. de Lesd. while Magnusson described *S. integra* B. de Lesd. ex H. Magn. and *S. novomexicana* H. Magn. (Bouly de Lesdain 1932 Magnusson 1935a). Most of the lichens collected by Brouard, including the type, were stored in the private herbarium of Bouly de Lesdain in Dunkirk, France. During World War II, towards the end the German occupation, allied bombings destroyed most of the city and Bouly de Lesdain's herbarium was also destroyed (Abbeyes 1966; DePriest 1996; Knudsen et al. 2017). All of Brouard's New Mexican *Sarcogyne* collections are now presumed to be lost, including the holotypes and the only specimens of *S. integra*, *S. magnussonii*, and *S. novomexicana*.

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**Figure 1.** Portrait of Brother Gerfroy Arsène Brouard (left) and typical habitat where he hiked and collected (right, Las Vegas, New Mexico; photograph U.S. Fish and Wildlife Service).

In our studies of *Sarcogyne* in Europe and North America, we were able to designate neotypes of *S. magnussonii* and *S. novomexicana* from modern collections (Knudsen & Kocourková 2012, Knudsen & Lendemer 2005). For the last 12 years, we have searched in the field and in herbaria for specimens that match the description in the protologue of *S. integra*. In 2012, Tim Wheeler discovered an unknown *Sarcogyne* growing on dolomite in Montana, in western North America. He then collected more material from additional sites in the region during the following years (2012–2016). We were surprised how well these specimens agreed with description of the original Brouard specimen of *S. integra*. Therefore we decided to select a neotype from this material, even though all the specimens were collected in Montana, while the original type was from New Mexico. Examining the neotype, we also took the opportunity to revise the original description (Magnusson 1935a).

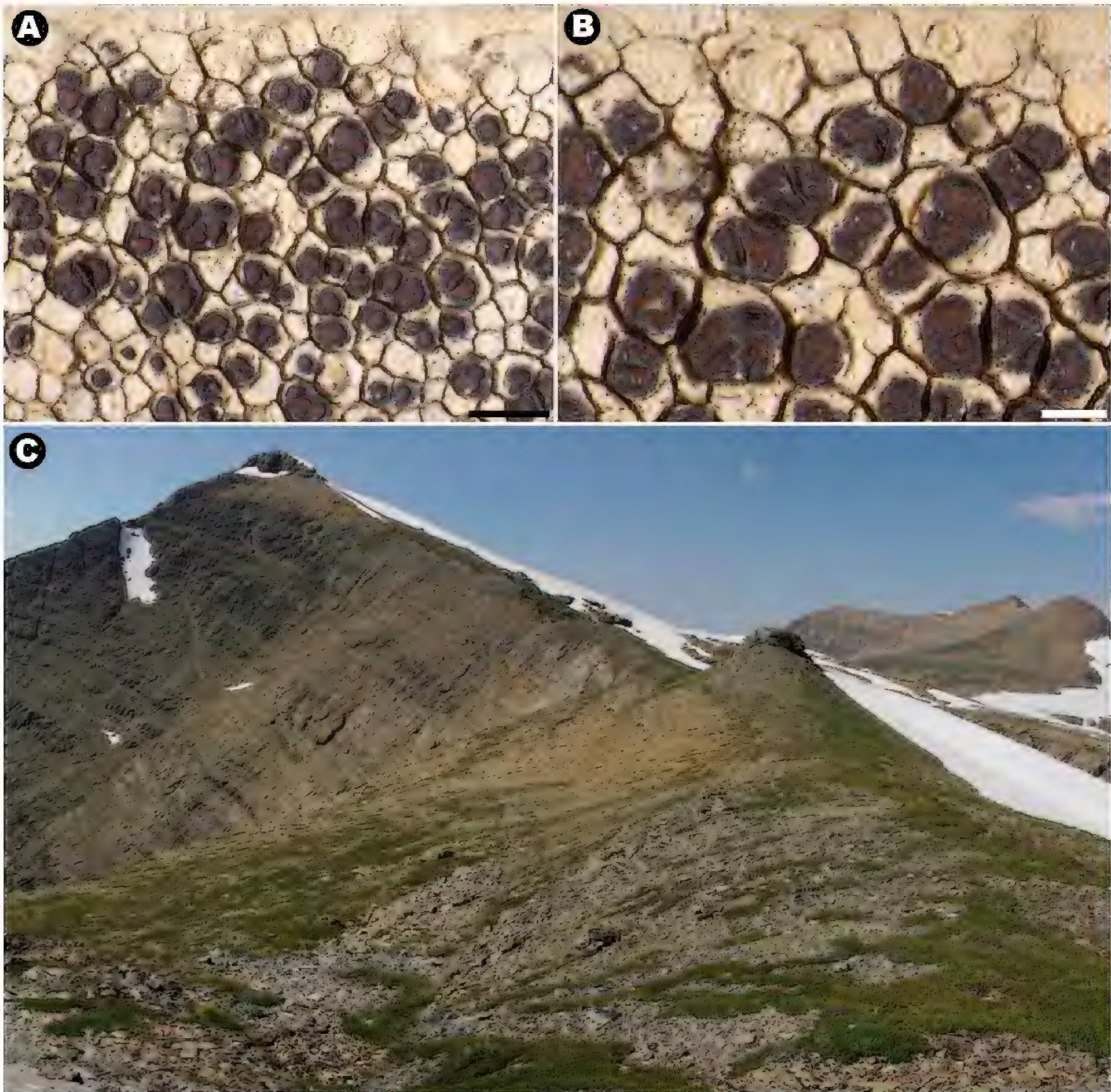
#### MATERIALS AND METHODS

Hand sections were examined from specimens deposited in COLO, NY, UCR and the private herbaria of Kocourková and Knudsen (hb. K&K) and Tim Wheeler (hb. Wheeler) using standard microscopy (Brodo et al. 2001). The amyloid reaction of the hymenial gel and subhymenium was tested with fresh undiluted IKI (Merck's Lugol) (Knudsen & Kocourková in press). The ascus stain was studied in IKI (Hafellner 1993). Thin-layer chromatography (TLC) was performed by J.C. Lendemer (NY) using Solvent C and following Culberson and Kristinsson (1970), as modified by Lendemer (2011), to check for secondary metabolites. Macrophotographs were taken with an Olympus DP72 digital camera mounted on an Olympus SZX 7 stereomicroscope equipped with PRO-SZM1 - Focus Drive Motorization for stacking images. Images were stacked using Olympus DeepFocus 3.4 module.

#### TAXONOMIC SECTION

***Sarcogyne integra* B. de Lesd. ex H. Magn.**, Ann. Cryptog. Exot. 7: 141. 1935. **TYPE: U.S.A. NEW MEXICO.** SAN MIGUEL CO.: vicinity of Las Vegas, on weathered calcareous rock, 1927, *Brouard 19930* (hb. B. de Lesdain, holotype [presumed destroyed]). **U.S.A. MONTANA:** MISSOULA CO.: Mission Mountain Wilderness, East St. Mary's Peak Ridge, 47°17'18"N 113°54'18"W, 2644 m., 9.x.2016, on wind-blasted dolomite outcrops, *T. Wheeler 7339* (PRM!, neotype [**designated here, MB-T383400**]; hb. Wheeler!, isoneotype).





**Figure 2.** Morphology and habitat of *Sarcogyne integra*. A and B, morphology of the neotype (scale bar = 1.0 mm in A, 0.5 mm in B). C, photograph of the neotype locality taken by TW.

**DESCRIPTION.** – *Thallus* of contiguous areoles with ecorticate sides, divided by thin cracks up to 300  $\mu\text{m}$  deep, emergent from the rock and sometimes indistinguishable from it, forming small or large areas up to 10 cm in diameter (with or without some open spaces, often half of areoles infertile, angular, variable). *Areoles* mostly 0.3 mm in width but some as wide as 1 mm. *Upper surface* white, smooth, epruinose, becoming slightly ochre when hydrated, *Cortex* non-farinose, thin, about 2–30  $\mu\text{m}$  thick, upper layer red-brown ca. 5  $\mu\text{m}$  thick, lower layer hyaline. *Algal layer* ca. 100  $\mu\text{m}$  thick uninterrupted by hyphal bundles, algal cells coccoid, 8–10  $\mu\text{m}$  in diameter, continuous below apothecia. Medulla soft, of intricate hyphae 2–4  $\mu\text{m}$  wide, obscured by granules from the substrate, crumbling in section. *Apothecia* mostly less than 0.6 mm in diameter, sometimes as wide as 1 mm, usually one per areole, emerging from the center of the areole, and not directly from the substrate, rising above the thallus and eventually occupying the entire areole and appearing as if growing between the areoles. *Parathecium* narrow, expanding around and above disc up to 100  $\mu\text{m}$  in width, raised above the level of the disc, the disc black, reddish when wet, epruinose, smooth. *Hymenium* 65–80  $\mu\text{m}$  tall, I+ blue, amyloid. *Asci* 50–70  $\times$  10–15  $\mu\text{m}$ , containing one hundred or fewer ascospores. *Ascospores* hyaline, usually short and broadly ellipsoid, 3–4(–6)  $\times$  2–3  $\mu\text{m}$ . *Subhymenium* 30–40  $\mu\text{m}$  tall, I + blue, amyloid. *Hypothecium* indistinct, ca. 10  $\mu\text{m}$  tall. *Pycnidia* not observed.



CHEMISTRY. – No substances detected. Spot tests: K-, C-, KC-, P-, UV-.

DISTRIBUTION AND ECOLOGY. – In North America, *Sarcogyne integra* occurs on sandstone in Las Vegas, New Mexico, and on dolomite in Montana. The Montana localities are all high elevation exposed dolomite ridges, cliffs and ledges.

DISCUSSION. – Many species of *Sarcogyne* that grow on calcareous substrates form white epilithic thalli. Most *Sarcogyne* calciphytes from Asia, Australia and Europe have non-areolate thalli usually less than 0.3 mm thick (Magnusson 1935b, 1937; Knudsen et al. 2009; Knudsen & Kocourková 2012, 2018; Knudsen & Standley 2007; McCarthy & Elix 2017). *Sarcogyne integra*, however, has a thick rimose areolate thallus approximately 0.4 mm thick. *Sarcogyne sekikaica* P.M. McCarthy & Elix from Australia also has a thick areolate thallus but it differs from *S. integra* in producing sekikaic acid and having brownish-gray areoles (McCarthy & Elix 2014). *Sarcogyne albohallina* K. Knudsen, T.B. Wheeler, Kocourk. & M. Westb. from Montana has a white areolate thallus, but it differs from *S. integra* especially in having apothecia with epihymenial melanin accretions (*Polysporina*-type apothecia), and in growing in dry, low-elevation sites (Knudsen et al. 2016).

Magnusson's description of *Sarcogyne integra* is based on a specimen from weathered, pitted sandstone, in which the thallus as well as apothecia were just emerging from the rock; the thallus is thus perhaps not as well developed as in the neotype selected here. Nevertheless, his description particularly of the thallus edges matches the neotype material well, especially where emerging areas of thallus are hard to distinguish from the rock. Also, the hymenium height, amyloid stain of the hymenial gel, and the broadly ellipsoid ascospores perfectly match Magnusson's description. Fourteen years ago we began our search for the missing types of Magnusson's *Sarcogyne* for the Sonoran Lichen Flora Project (Knudsen & Standley 2007). We are happy to be finally done.

*Additional specimens examined.* – **U.S.A. MONTANA. FLATHEAD CO.:** Nasukoin Mountain Trail, 48°46'37"N, 114°35'19"W, 2299 m, 7.ix.2014, on Piegan Group dolomite, *T. Wheeler* 6579, 6584, 6585 (hb. Wheeler). **LAKE CO.:** Mission Mountain Wilderness, East St. Mary's Peak Ridge, 47°17'27"N 113°54'16"W, 2630 m, 1.x.2014 on dolomite pebble, *T. Wheeler* 6604 (hb. Wheeler); Mission Mountain Wilderness, East St. Mary's Peak Ridge, 47°17'24"N 113°54'19"W, 2622 m, on Helena formation dolomite, 30.ix.2012, *T. Wheeler* 5536 (hb. Wheeler, NY), 5533, 5534, 5538, 5544, 5545, 5552 (hb. Wheeler); Mission Mountain Wilderness, Peak X, 47°18'45"N 113°54'04"W, 2840 m, on windswept dolomite ledges, 17.vii.2007, *T. Wheeler* 1942 (hb. Wheeler); Mission Mountain Wilderness, East St. Mary's Peak Ridge, 47°17'18"N 113°54'18"W, 2644 m., 9.x.2016, on wind-blasted dolomite outcrops, *T. Wheeler* 7332. **LEWIS AND CLARK CO.:** Upper Copper Lake Bowl, ridge to Red Mountain, 47°05'01"N, 112°45'18"W, 2512 m, 12.ix.2015, on Helena formation dolomite, *T. Wheeler* 7140 (UCR, hb. Wheeler), 7135, 7136, 7138, 7163 (hb. Wheeler).

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## Lichens of Canada Exsiccati, Fascicle I, Nos. 1-25

R. TROY McMULLIN<sup>1\*</sup> AND LYNDSEY SHARP<sup>2</sup>

**ABSTRACT.** – A new exsiccati is initiated, Lichens of Canada, disseminated by the National Herbarium of Canada (CANL) at the Canadian Museum of Nature. Thirty-one sets of 25 species from the Hudson Bay Lowlands in northern Ontario and Salt Spring Island in British Columbia are distributed to: B, BG, C, CANB, COLO, DUKE, E, EWU, FH, FR, GZU, H, HMAS, KANU, LD, M, MSC, NBM, NFLD, NY, O, OSU, PMAE, QFA, S, SWSG, TNS, TU, UBC, UPS, WIS.

**KEYWORDS.** – Biodiversity, fungi, lichenology, mycology, natural history collections, sched.

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### INTRODUCTION

Exsiccati are identically numbered sets of dried specimens distributed to herbaria (Sayre 1969, 1971). Their purpose is to disseminate material from particular areas, or of specific groups of taxa, for examination by researchers in other parts of the world (Stafleu 1972, Stevenson 1971). An exchange of duplicate specimens serves a similar function and is often done instead of exsiccati. The benefit of exsiccati however, is that sets are consistent and provide an alternative to sorting through herbaria to locate specimens from a particular region since they are all in one place and usually organised in a catalogue.

In Canada, two exsiccati that contain lichens have been distributed in the past by the National Herbarium of Canada (CANL) at what is now the Canadian Museum of Nature. The first, ‘*Canadian Lichens*’, was prepared by John Macoun and disseminated in two series. Culberson (1959) and Brodo (1971), however, do not consider Macoun’s sets to be proper exsiccati because locality data and dates were often missing and the material in each set was not consistent. The second one issued, *Lichenes Canadenses Exsiccati*, was distributed in four fascicles and included 250 numbers (Brodo 1971, 1977, 1984; Brodo & Wong 1993). A third set of exsiccati of note was also distributed, “*Lichenes Arctici*”, by John Thomson, which included many lichens from the Canadian Arctic.

A new exsiccati series is initiated here, *Lichens of Canada*, distributed by CANL and produced by the Lichenology Section of the Canadian Museum of Nature. New numbers will be issued regularly consisting of specimens collected throughout the country. Specimens in this fascicle were collected in the Hudson Bay Lowlands of northern Ontario (23 species) and Salt Spring Island in British Columbia (2 species) by the first author.

### MATERIALS AND METHODS

**Identifications.** – We identified specimens with light microscopy and standard chemical spot tests with paraphenylenediamine in ethyl alcohol, nitric acid, sodium hypochlorite, 10% and 20% potassium hydroxide, and Lugol’s iodine (Brodo et al. 2001). We further examined the chemistry using an ultraviolet light chamber. For specimens that could not be identified by morphology, chemical spot tests, or ultraviolet light, we examined the chemistry using thin-layer chromatography following Culberson and Kristinsson (1970) in solvents A, B’, and C.

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*Specimen Preparation.* – We prepared specimens using three different methods. The first was for material that required pressing. We softened the lichens with deionized water until pliable. After dividing the material into appropriate sizes for packets, we pressed them between newsprint and corrugated cardboard until dry (1-3 days). The second method was for material on soil. To prevent the soil from breaking apart, we used a 4-1 mixture of Weldbond Universal Adhesive (white PVA glue) and deionized water. The mixture was applied using a paintbrush over the bottom surface and lower edges of specimens and then dried with the lower surface facing up. Lastly, specimens on lignum or branches were cut to appropriate lengths to fit into packets using pruning shears.

We then placed all specimens on UV negative, acid-free cardboard cards, lined with natural, unbleached cotton batting. Specimens that we glued down were affixed with Weldbond Universal Adhesive. We placed the mounted specimens in pure cotton, acid-free paper packets.

#### DATA FOR FASCICLE I – NUMBERS 1-25

1. *Letharia vulpina* (L.) Hue  
Det. R.T. McMullin, 2016

**CANADA. BRITISH COLUMBIA. CAPITAL REGIONAL DISTRICT:** Municipalities of Greater Victoria, Salt Spring Island, Mount Maxwell Provincial Park, on Mt. Maxwell Road, ca. 1 km below the summit, at a road side pull off. – Lat. 48.8109, Long. -123.5314. – Elev. ca. 482 m. – Old-growth mixed-wood coniferous forest dominated by *Pseudotsuga menziesii*, at the forest edge. – Corticolous on a *Pseudotsuga menziesii* trunk.

R. Troy McMullin #17050  
w/ Robert Cameron and Christopher Lewis

31 May 2016

2. *Solorina saccata* (L.) Ach.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 320 km south of Hudson Bay and ca. 280 km west of James Bay on the eastern shore of the Attawapiskat River. – Lat. 52.9261, Long. -85.8394 – Elev. <100 m. – Mature conifer dominated mixed-wood forest on well-drained calcareous soil. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15964  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

15 July 2015

3. *Tuckermanopsis americana* (Spreng.) Hale  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 286 km south of Hudson Bay and ca. 12.6 km south of the Attawapiskat River. – Lat. 52.9801, Long. -85.3964. – Elev. <100 m. – Fen, dominant vegetation includes *Carex chordorrhiza*, *Chamaedaphne calyculata*, *Larix laricina*, *Picea mariana*, *Trichophorum alpinum*, and *T. cespitosum*. – Corticolous. – Accessed by helicopter.

R. Troy McMullin #15978  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

13 July 2015

4. *Phaeocalicium populneum* (Brond. ex Duby) Alb. Schmidt  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 330 km south of Hudson Bay and ca. 280 km west of James Bay along the eastern shore of the Attawapiskat River. – Lat. 52.6858, Long. -85.9378. – Elev. <100 m. – Mature *Populus* stand on well-drained soil within a conifer dominated mixed-wood forest. – Corticolous on *Populus*. – Accessed by helicopter.

R. Troy McMullin #15982  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

20 July 2015



5. *Parmelia sulcata* Taylor  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 330 km south of Hudson Bay and ca. 280 km west of James Bay along the eastern shore of the Attawapiskat River. – Lat. 52.6858, Long. -85.9378. – Elev. <100 m. – Mature *Populus* stand on well-drained soil within a conifer dominated mixed-wood forest. – Corticolous on a conifer. – Accessed by helicopter.

R. Troy McMullin #15983  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

20 July 2015

6. *Cladonia stellaris* (Opiz) Pouzar & Vězda  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 333 km south of Hudson Bay and ca. 4.2 km west of Deugo Lake. – Lat. 52.8319, Long. -86.5564. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15985  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

11 July 2015

7. *Cladonia deformis* (L.) Hoffm.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 333 km south of Hudson Bay and ca. 4.2 km west of Deugo Lake. – Lat. 52.8319, Long. -86.5564. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15986  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

11 July 2015

8. *Calicium tigillare* (Ach.) Pers.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 286 km south of Hudson Bay and ca. 12.6 km south of the Attawapiskat River. – Lat. 52.9801, Long. -85.3964. – Elev. <100 m. – Fen, dominant vegetation includes *Carex chordorrhiza*, *Chamaedaphne calyculata*, *Larix laricina*, *Picea mariana*, *Trichophorum alpinum*, and *T. cespitosum*. – Lignicolous on a snag. – Accessed by helicopter.

R. Troy McMullin #15989  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

13 July 2015

9. *Cladonia rangiferina* (L.) F.H. Wigg.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 328 km south of Hudson Bay and ca. 575 m east of the Muketei River. – Lat. 52.7742, Long. -86.2987. – Elev. <100 m. – Upland forest ecosystem with well-drained soil, dominant vegetation includes *Cladonia stellaris*, *C. stygia*, *Picea* spp., *Pinus banksiana*, and *Pleurozium schreberi*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15990  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

17 July 2015

10. *Evernia mesomorpha* Nyl.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 286 km south of Hudson Bay and ca. 12.6 km south of the Attawapiskat River. – Lat. 52.9801, Long. -85.3964. – Elev. <100 m. – Fen, dominant vegetation includes *Carex chordorrhiza*, *Chamaedaphne calyculata*, *Larix laricina*, *Picea mariana*, *Trichophorum alpinum*, and *T. cespitosum*. – Corticolous. – Accessed by helicopter.

R. Troy McMullin #15991  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

13 July 2015

11. *Cladonia cenotea* (Ach.) Schaer.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 342 km south of Hudson Bay and ca. 4.6 km east of the Muketei River. – Lat. 52.7342, Long. -86.2580. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15992  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

12 July 2015

12. *Icmadophila ericetorum* (L.) Zahlbr.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 333 km south of Hudson Bay and ca. 4.2 km west of Deugo Lake. – Lat. 52.8319, Long. -86.5564. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15994  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

11 July 2015

13. *Cladonia wainioi* Savicz  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 328 km south of Hudson Bay, ca. 293 km east of James Bay, ca. 5 km east of the Muketei River, and 9.7 km west of McFaulds Lake. – Lat. 52.7750, Long. -86.2139. – Elev. <100 m. – Upland forest ecosystem with well-drained soil, dominant vegetation includes *Cladonia stellaris*, *C. stygia*, *Picea* spp., *Pinus banksiana*, and *Pleurozium schreberi*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15995  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

12 July 2015

14. *Cladonia crispata* (Ach.) Flot. var. *crispata*  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 333 km south of Hudson Bay and ca. 4.2 km west of Deugo Lake. – Lat. 52.8319, Long. -86.5564. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15996  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

11 July 2015

15. *Vulpicida pinastri* (Scop.) J.-E. Mattsson & M.J. Lai  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 286 km south of Hudson Bay and ca. 12.6 km south of the Attawapiskat River. – Lat. 52.9801, Long. -85.3964. – Elev. <100 m. – Fen, dominant vegetation includes *Carex chordorrhiza*, *Chamaedaphne calyculata*, *Larix laricina*, *Picea mariana*, *Trichophorum alpinum*, and *T. cespitosum*. – Corticolous on *Picea mariana*. – Accessed by helicopter.

R. Troy McMullin #15998 13 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

16. *Cladonia amaurocraea* (Flörke) Schaer.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 330 km south of Hudson Bay and 7.2 km southwest of McFaulds Lake. – Lat. 52.7275, Long. -86.1635. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15999 12 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

17. *Hypogymnia bitteri* (Lynge) Ahti  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 391 km south of Hudson Bay and ca. 10.4 km southwest of Kitchie Lake. – Lat. 52.3557, Long. -86.6537. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Corticolous on a conifer. – Accessed by helicopter.

R. Troy McMullin #16202 14 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

18. *Cladonia mitis* Sandst.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 342 km south of Hudson Bay and ca. 4.6 km east of the Muketei River. – Lat. 52.7342, Long. -86.2581. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #16203 12 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

19. *Hypogymnia physodes* (L.) Nyl.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 286 km south of Hudson Bay and ca. 12.6 km south of the Attawapiskat River. – Lat. 52.9801, Long. -85.3964. – Elev. <100 m. – Fen, dominant vegetation includes *Carex chordorrhiza*, *Chamaedaphne calyculata*, *Larix laricina*, *Picea mariana*, *Trichophorum alpinum*, and *T. cespitosum*. – Corticolous on a conifer. – Accessed by helicopter.

R. Troy McMullin #16205 13 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith



20. *Peltigera aphthosa* (L.) Willd.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 320 km south of Hudson Bay and ~280 km west of James Bay along the western shore of the Attawapiskat River. – Lat. 52.9233, Long. -85.8450. – Elev. <100 m. – Mature conifer dominated mixed-wood forest on well-drained soil. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #16206 21 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

21. *Lobaria pulmonaria* (L.) Hue  
Det. R.T. McMullin, 2016

**CANADA. BRITISH COLUMBIA. CAPITAL REGIONAL DISTRICT:** Municipalities of Greater Victoria, Salt Spring Island, Mount Maxwell Provincial Park, on the southwest slope of Mount Maxwell. – Lat. 48.8026, Long. -123.5294. – Elev. ca. 200 m. – *Quercus garryana* savannah on a steep southwest facing slope, coastal, <1 km from the shore. – Corticolous on a *Quercus garryana*.

R. Troy McMullin #17051 30 May 2016  
w/ Robert Cameron and Christopher Lewis

22. *Imshaugia aleurites* (Ach.) S.F. Mey.  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 391 km south of Hudson Bay and ca. 10.4 km southwest of Kitchie Lake. – Lat. 52.3557, Long. -86.6537. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Corticolous on a conifer. – Accessed by helicopter.

R. Troy McMullin #15839 14 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

23. *Cladonia subfurcata* (Nyl.) Arnold  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 330 km south of Hudson Bay and ca. 7.2 km southwest of McFaulds Lake. – Lat. 52.7275, Long. -86.1635. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15894 12 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

24. *Cladonia uncialis* (L.) F.H. Wigg. ssp. *uncialis*  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 326 km south of Hudson Bay, ca. 20 km north of Missisa Lake, and ca. 35 km east of the Attawapiskat River. – Lat. 52.5924, Long. -85.4446. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15874 20 July 2015  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

25. *Cladonia stygia* (Fr.) Ruoss  
Det. R.T. McMullin, 2015

**CANADA. ONTARIO. KENORA DISTRICT:** ca. 352 km south of Hudson Bay, ca. 13.4 km northeast of Kitchie Lake, and ca. 20.8 km west of the Attawapiskat River. – Lat. 52.5567, Long. -86.3548. – Elev. <100 m. – Sparsely treed bog, dominant vegetation includes *Chamaedaphne calyculata*, *Cladonia stellaris*, *C. stygia*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Picea mariana*, *Sphagnum fuscum*, and *Vaccinium oxycoccus*. – Terricolous. – Accessed by helicopter.

R. Troy McMullin #15895  
w/ Jennifer Doubt, Murray Dixon, and Tyler Smith

16 July 2015

#### ACKNOWLEDGEMENTS

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## Two new calciphytes from Western North America, *Acarospora brucei* and *Acarospora erratica* (Acarosporaceae)

KERRY KNUDSEN<sup>1\*</sup> AND JANA KOCOURKOVÁ<sup>2</sup>

**ABSTRACT.** – Two new species that grow on calcareous rock, *Acarospora brucei* and *A. erratica*, are described from North America. *Acarospora brucei* was originally reported as *A. complanata*. It is proposed that the name *A. complanata* be removed from the North American lichen checklist. Sixty-four species of *Acarospora* and 99 species of Acarosporaceae are currently reported in North America. A protocol for reproducible iodine tests of hymenial and subhymenial substances in Acarosporaceae is provided.

**KEYWORDS.** – *Acarospora sparsa*, Lugol's, Mexico, nomenclature, taxonomy.

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### INTRODUCTION

The western United States is a center of diversity for Acarosporaceae and most of the 97 species of Acarosporaceae currently reported from North America north of Mexico occur there, particularly in the southwest (Esslinger 2018; Knudsen 2007; Leavitt et al. 2018; Magnusson 1929 & 1956). In this paper we describe two new species, both calciphytes, from western North America.

### MATERIALS AND METHODS

*Morphological and chemical studies.* – Specimens were studied from OSC, UCR, UPS, and from the private herbaria of J. Hollinger (hb. Hollinger), K. Knudsen and J. Kocourková (hb. K & K), B. McCune (hb. McCune), T. Spribille (hb. Spribille) and T. Wheeler (hb. Wheeler), using standard microscopy and spot tests (Brodo et al. 2001). Hand sections were studied and measured in water. Hymenium measurements include the epihymenium. The amyloid reaction of the hymenial and subhymenium substances were tested with fresh undiluted IKI (Merck's Lugol; see notes below for protocol). Ascus staining was studied in IKI, with and without pre-treatment in K (Hafellner 1993). Thin-layer chromatography (TLC) was used to verify the results of spot tests (Orange et al. 2001). Macrophotographs were taken with a digital camera Olympus DP72 mounted on Olympus SZX 7 stereomicroscope equipped with PRO-SZM1 - Focus Drive Motorization for stacking pictures and stacked using Olympus DeepFocus 3.4 module. Microphotographs were taken with a digital camera Olympus DP72 mounted on an Olympus BX51 Light Microscope fitted with Nomarski interference contrast and using Promicra QuickPhoto Camera 3.0 software. The figure plates were processed with QuickPhoto Camera 3.1 software fitted with Promicra Publisher Modul and eventually refined with Adobe Photoshop CS4 Extended ver. 11.0.

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IKI reaction with Merck's Lugol	Euamyloid	Hemiamyloid	
	Type BB	Type RR	Type RB
high iodine concentration	blue	red	red
low iodine concentration	blue	red	blue shades

**Table 1.** Three types of amyloidity can be distinguished when applying IKI to *Acarosporaceae*: RB is a type intermediate between BB and RR, but is subsumed under hemiamyloid because of the presence of the red IKI reaction when squashed (adapted from Barel 1987).

*Examination of hymenial reactions with Lugol's (IKI).* – For our studies of hymenial substances in *Acarosporaceae* we only use Merck's Lugol (Iodine 3.4 grams per liter; Potassium iodine 6.8 grams per liter) stored in the dark in a dark glass bottle from the factory in an insulated foam box at temperatures between 15–25°C. From a stock solution, Lugol's is poured into small dark glass lab bottles with droppers. It is stored in the dark at the same temperature as the stock solution when not in use at lab temperatures. It is changed once a month. It is shaken before use.

Thin sections of the hymenium are placed in Lugol's without water and squashed with a cover slip to insure saturation. Euamyloid hymenial gel is always dark blue despite the age or concentration of Lugol's used. The blue does not disappear if the slide is left for eight hours to dry, or when more Lugol's is added. There are two possible reactions for hemiamyloid hymenial gel. In the first case, the hymenial gel does not contain the substance that reacts euamyloid to Lugol's, and the reaction to Lugol's is immediately and uniformly red. In the second case, the hymenial gel contains both substances and reacts euamyloid (blue) and hemiamyloid (red). If not squashed and saturated with Lugol's the hymenial gel will usually have a blue or blue yellow to greenish blue reaction to Lugol's. This reaction will usually remain if allowed to dry over eight hours. When squashed, the hymenial gel will remain blue if the Lugol's has not been shaken, is diluted, or has lost its potency. If squashed, and the Lugol's properly shaken, is not diluted, or has not lost its potency, the hymenial gel will quickly turn from blue to red. Thus, there are three types of reactions: blue (abbreviated BB; euamyloid), red-blue (abbreviated RB; containing euamyloid and hemiamyloid substances), and red (abbreviated RR; containing no euamyloid substances) (Barel 1987; summarized in Table 1 herein).

For diagnostic purposes the BB or RR are the most important characters. The RB reaction is the most common reaction in *Acarospora*. The subhymenium in species is often euamyloid. Rarely, when the subhymenium is hemiamyloid (RB or RR), it can be useful as secondary character for identification (Knudsen & Kocourková 2017a). It must be recognized that Magnusson (1929, 1956) did not follow any standardized protocol when testing reactions of the hymenial gel with Lugol's. As such his observations are unreliable, except in the few cases, where he reports strong color reactions, like a dark blue or a deep red reaction. Caution is advised in accepting some reports of euamyloid hymenial gel. For instance, in the description *Acarospora austriaca* H. Magn., Magnusson reports the hymenial gel as euamyloid but it was hemiamyloid (Magnusson 1935, Knudsen unpublished data).

## TAXNOMIC SECTION

*Acarospora brucei* K. Knudsen & Kocourk., sp. nov.  
Mycobank #828143.

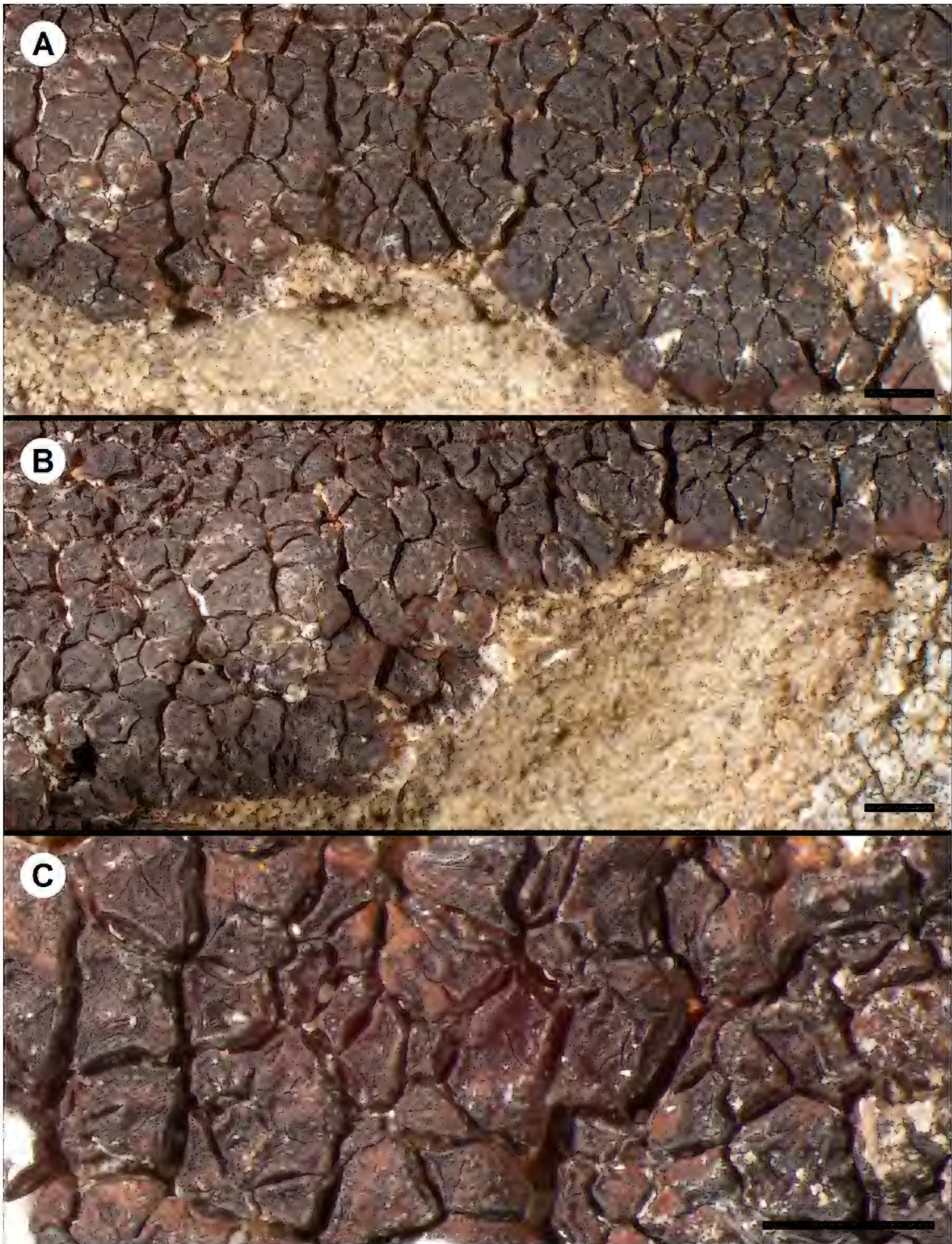
**FIGURE 1.**

**TYPE: U.S.A. MONTANA.** TETON CO.: on hill on W side of Pine Butte Swamp, in *Pinus flexilis* savanna, 47°50'N, 112°36'W, 1480 m, viii.1985, on limestone outcrops, *B. McCune 15165* (OSC!, holotype).

Similar to *Acarospora complanata* but differing in producing gyrophoric acid and occurring on limestone instead of volcanic rock.

**DESCRIPTION.** – *Thallus* rimose areolate, areoles 0.5–1.0 mm wide, 350–450 µm thick, outer areoles lobulate, lobes undivided, up to 1.5 mm long, widening to 1 mm, forming a single rounded lobe. *Upper surface* dark dull brown, with black hues, rugulose. *Epicortex* thin to indistinct. *Cortex* mostly 30–40 µm thick, upper layer reddish brown, thin, mostly a single cell layer thick, lower area hyaline, easily





**Figure 1.** *Acarospora brucei* (holotype, *McCune 15165*). A-B, morphology of thallus, areolate thallus with very slightly prolonged marginal lobes. C, detail of thallus with apothecia. All scales = 1.0 mm.





**Figure 2.** *Acarospora complanata* H. Magn. (UPS, isotype). The only surviving specimen of *A. complanata* identified by A.H. Magnusson. The rest of the specimens, probably including a large holotype with a well-developed determinate margin, are presumed to have been destroyed in the bombing of Dunkirk when Maurice Bouly de Lesdain's herbarium was destroyed.

observed in water, cells mostly round, mostly 4–5  $\mu\text{m}$  wide, POL+ with crystals from secondary metabolite. *Algal layer* 60–100  $\mu\text{m}$  thick, algal cells mostly 7–10  $\mu\text{m}$  wide, continuous below apothecia, even, with a few slender hyphal bundles, less than 10  $\mu\text{m}$  thick, but not distinctly interrupted. *Medulla* 200–300  $\mu\text{m}$  thick, medullary hyphae thin-walled, 2.0–2.5  $\mu\text{m}$  wide, medulla obscured with substrate crystals, some POL+, the mycelial base thickening with age. *Apothecia* immersed, epruinose, rugulose, 1 to 3 per areole, 100–300  $\mu\text{m}$  wide, disc reddish brown. *Parathecium* 10  $\mu\text{m}$  wide, rarely wider. *Epihymenium* ca. 10  $\mu\text{m}$  thick, reddish-brown and coherent. *Hymenium* 65–80(–100)  $\mu\text{m}$  high, paraphyses 1.5–2.5  $\mu\text{m}$  wide, septate, hymenial gel IKI+ blue. Asci 40–50  $\times$  10–17  $\mu\text{m}$  wide, *Acarospora* type. *Ascospores* mostly 4–5  $\times$  2.0–2.5  $\mu\text{m}$ , broadly ellipsoid. *Subhymenium* 20–30  $\mu\text{m}$  tall, IKI+ blue. *Hypothecium* thin, 10  $\mu\text{m}$  wide, to indistinct. *Pycnidia* not seen.

**CHEMISTRY.** – Gyrophoric acid in cortex (TLC, according to specimen annotation by Alphandary & McCune, 2015). Spot tests: cortex K-, C+ pink, KC+ pink, P-, UV-; medulla K-, C-, KC-, P-, UV-.

**ETYMOLOGY.** – The species is named for the collector Bruce McCune in honor of his work as an ecologist and his study of lichen biodiversity in North America. He has made a major contribution to North American lichenology.

**DISTRIBUTION AND ECOLOGY.** – Known only from its type locality in North America (Montana) on limestone, overgrowing the edge of another crustose lichen, at an elevation of 1480 m.

**DISCUSSION.** – Only two described species with a determinate saxicolous thallus which produce gyrophoric acid have been reported in North America: *Acarospora rosulata* H. Magn. and *A. tintickiana* St. Clair, Newberry & S. Leavitt (Knudsen et al. 2010; Leavitt et al. 2018). *Acarospora rosulata* is common in western North America where the species was erroneously reported as *A. bullata* Anzi by Knudsen (2007) and later corrected by Knudsen et al. (2010). *Acarospora brucei* differs from *A. rosulata* in having a dull dark brown rugulose upper surface rather than a usually shiny brown smooth upper surface. *Acarospora brucei* usually has a hymenium that is not as tall as *A. rosulata* (65–100  $\mu\text{m}$  vs. 80–150  $\mu\text{m}$ ). *Acarospora brucei* occurs on calcareous rock while *A. rosulata* usually occurs on siliceous rock. *Acarospora tintickiana* occurs on calcareous rock but differs from *A. brucei* especially in having a densely pruinose, orbicular thallus, and usually having a much taller hymenium (90–120 (–150)  $\mu\text{m}$  *fide* Leavitt et al. (2018) vs. 65–

80(–100)  $\mu\text{m}$ ). At least a thirty to fifty micron difference in hymenial heights in a species is common in Acarosporaceae and depends on development of specimen.

*Acarospora brucei* was originally identified as *A. complanata* H. Magn. (Fig. 2) based on A.H. Magnusson's concept of this species as having a cortex reacting C+ red and in being determinate with similar anatomical measurements (Lendemer & Knudsen 2011). *Acarospora complanata* was reported as occurring in North America (Mexico) as well as in Europe and Africa (Magnusson 1929). In 2005 we tested the isotype, and only specimen of *A. complanata* identified by A.H. Magnusson known to exist, with C (UPS!) We observed a reddish color reaction and, following Magnusson, assumed this reaction to be caused by the presence of gyrophoric acid (Knudsen 2007). Recently, however, J.C. Lendemer (pers. comm.) examined the type of *A. complanata* with TLC and despite its C+ reddish reaction could not confirm gyrophoric acid. This misleading color reaction is a "false positive" caused by a cortical pigment and not gyrophoric acid. Such a "false" spot test reaction is also known from the southwestern species *A. sparsa* H. Magn. which Magnusson also described as being C+ (Magnusson 1933; Knudsen, unpublished). Consequently, the name *A. complanata* refers to a species that does produce gyrophoric acid and occurs on basalt. The name was thus misapplied to *A. brucei*, a morphologically similar species that, however, produces gyrophoric acid and grows on limestone (Lendemer & Knudsen 2011, Magnusson 1929). Even though Magnusson (1929) reported *A. complanata* from Mexico, the specimen upon which this record is based could not be located. It is quite possible that these reports from Michoacan, at an elevation of 2400 m, growing on unspecified rock substrate, may instead refer to *A. brucei*.

Without molecular analysis, we would usually hesitate to describe a new species based on a single specimen unless that taxon were characterized by conspicuous phenotypic characters and a distinct effort made to find additional material. Unfortunately, Bruce McCune never collected *A. brucei* again. A distinct effort was made to discover other specimens. The species was not observed by the authors among numerous collections of North American Acarosporaceae made by Toby Spribille, which we examined at the University of Graz, Austria. Tim Wheeler, who collected lichens extensively on limestone in Montana, has never found the species either. Finally, the first author was unable to find any material among the collections of *Acarospora* from North America at the herbarium of University of Colorado, Boulder (COLO).

The difference in chemistry and different substrate preference clearly distinguishes the newly described *Acarospora brucei* from *A. complanata*. Since *A. brucei* has previously been reported, although erroneously as *A. complanata*, and an extensive search for more specimens was performed over several years, we consider ourselves justified in introducing a name for the taxon (Lendemer & Knudsen 2011). To preserve the minute type specimen of *A. brucei*, previously already much damaged from sectioning, we limited our study to three more apothecial sections and one section of an areole. Anatomical characteristics described here are based on a conservative previous study and this meager new study (Lendemer & Knudsen 2011). It is possible in some specimens the punctiform apothecia may become dilated and be up to 1 mm wide as was the case of *Acarospora trachyticola* (Müll. Arg.) Hue from South America which was described as having punctiform apothecia (Knudsen et al. 2012). We hope that our description can be refined, once more material of the species becomes available.

*Acarospora obscura* H. Magn. was previously synonymized with *A. complanata* by Clauzade et al. (1981). Magnusson's (1929) description of this species was based on material from Mexico, but the protologue also cited specimens from Africa. We could not locate any type material of *A. obscura* from Mexico; all specimens were presumably destroyed with Bouly de Lesdain's herbarium in Dunkirk during World War II (Abbeyes 1966, Knudsen et al. 2017). In the protologue Magnusson (1929) expressed doubts as to whether the North American and African specimens truly belonged to the same species: "Whether the identity between the American and the African specimens is complete is not easy to state owing to the smallness of the areolae".

Later Magnusson cited a collection made by A.C. Herre in California as *A. obscura* (Magnusson 1956). During the Sonoran flora project, the first author examined this specimen from California (UPS!) and concluded that it was *A. veronensis* A. Massal., matching a type specimen of that species from Italy (FH!) and agreeing also with other specimens of *A. veronensis* from California, including one identified by Magnusson himself, collected by C.C. Kingman in the San Gabriel Mountains of southern California (O!). (Knudsen 2007, Magnusson 1929). Because Clauzade et al. (1981) had synonymized *A. obscura* with *A. complanata* and based on Magnusson's erroneous record of *A. obscura* from California, Egan (1987) included *A. complanata* on the checklist of lichens in North American north of Mexico. Recently, however, Roux (2007), suggested that six *Acarospora* species including *A. obscura* must no longer be considered



synonymous with *A. complanata*. We agree with Roux' revision of the synonymy of *A. obscura* with *A. complanata*. The record of *A. complanata* on the current North American checklist, however, is incorrect because of the misidentification of the taxon that we here describe as *A. brucei* (Esslinger 2018, Lendemer & Knusen 2011). *Acarospora complanata* should be removed from the North American checklist. Nevertheless, both *Acarospora complanata* and *A. obscura* should, for now, still be included as part of the any future Mexican checklist.

*Acarospora erratica* K. Knudsen & Kocourk., sp. nov.  
Mycobank #828144.

### FIGURE 3.

Similar to *Acarospora coloradiana* but differing especially in having hemiamyloid hymenial gel and a thallus that is usually epruinose, without distinct fissures.

**TYPE: U.S.A. CALIFORNIA:** SAN BERNARDINO CO., San Bernardino Mountains, San Bernardino National Forest, 3NO3, 34°15'39.5"N, 116°43'36"W, 1961 m, along seasonal stream bed, pinyon-juniper woodland with Joshua trees, 5.xi.2014, on limestone, K. Knudsen et al. 17026 (PRM!, holotype; UCR!, isotype).

**DESCRIPTION.** – *Hypothallus* endosubstratal, I-, continuous with medullary hyphae, with no algal cells observed. *Thallus* of dispersed verruciform rounded areoles, mostly 0.5 mm in diam., mostly 0.3–0.4 µm tall, with usually one apothecium. *Upper surface* light brown to dark brown, epruinose or pruinose, the areole broadly attached with no distinct lower surface, replicating by division. *Cortex* 20–35 µm thick, lacking an epicortex, upper layer brown pigmented, lower layer hyaline, cortical cells mostly round, typically 4–5 µm in diam. *Algal layer* up to 100 µm thick, uninterrupted by hyphal bundles, algal cells 5–10 µm wide. *Medulla* to 200 µm thick, mixed with substrate particles, medullary hyphae thin-walled, mostly 2–3 µm wide. *Apothecia* usually one per verruca, disc immersed, epruinose or rarely pruinose, plane, round, darker than thallus when dry, reddish when wet, up to 0.4 mm wide, deeply immersed, sometimes the disc dilating until thallus is reduced to a thin margin and the apothecia appear pseudo-lecanorine, rarely contiguous with more than two apothecia and only observed in the populations in the White Mountains on dolomite in shade. *Parathecium* often indistinct, of thin hyphae, not expanding around disc, to 10 µm wide, often ending below thalline surface. *Epihymenium* coherent in red-brown gel, ca. 5–10 µm high. *Hymenium* 80–100 µm high, hymenial gel IKI+ blue turning red, hemiamyloid. *Paraphyses* slender to stout, 1.5–2.0(–3.0) µm wide at mid-level, septate, oil drops common, apices narrow or slightly expanded (to 3 µm wide in some California specimens). *Asci* 60–100 × 25 µm, over 100 ascospores per ascus. *Ascospores* subglobose to broadly ellipsoid, variable, 2–4(–5) × 1.5–2.5(–3.0) µm (n=50), often with one or two oil drops, rarely some being narrowly ellipsoid (5 × 2 µm). *Subhymenium* 20–49 µm tall, IKI+ blue, euamyloid. *Hypothecium* 10 µm high. *Pycnidia* not observed.

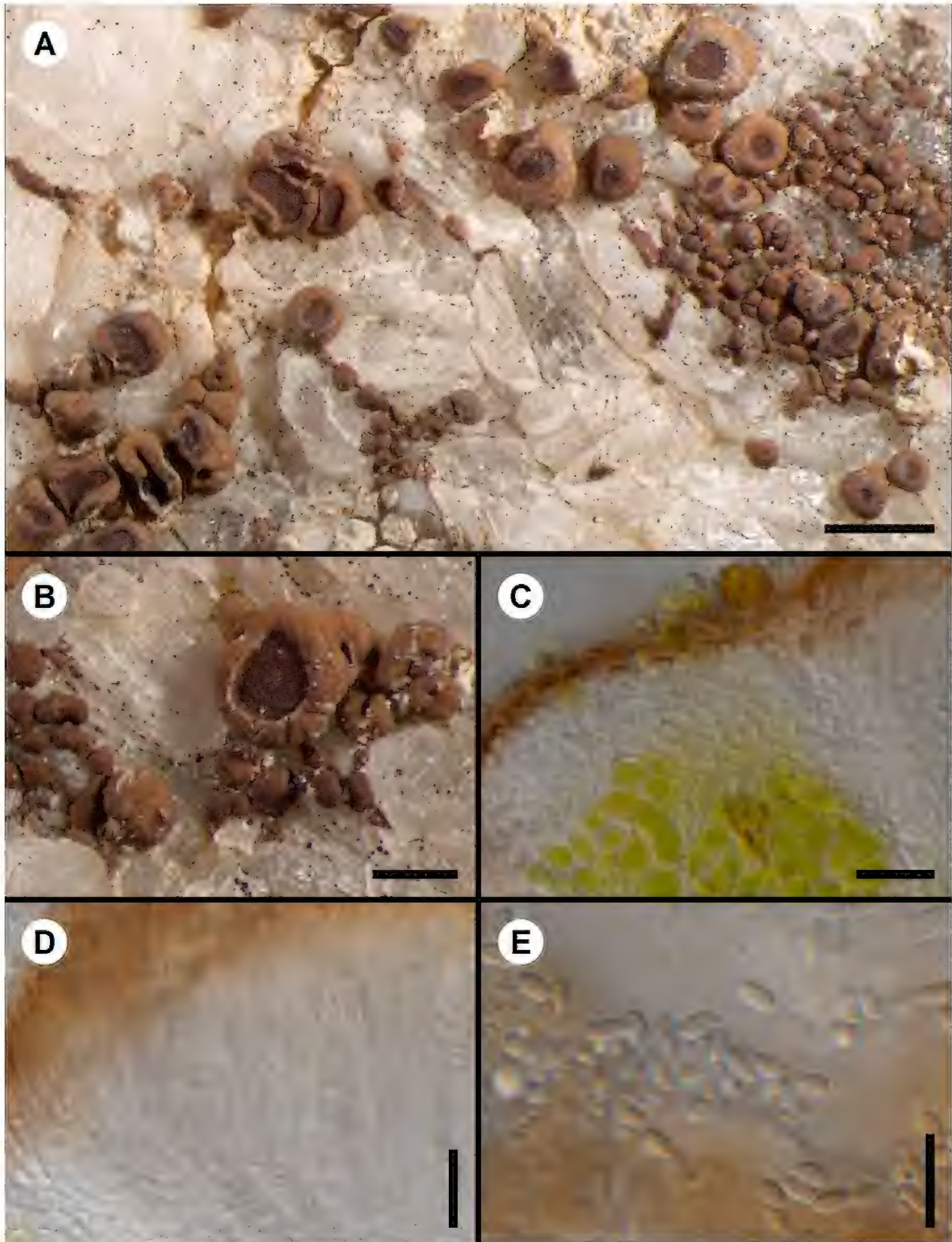
**CHEMISTRY.** – No secondary metabolites (TLC in solvent C, performed by J.C. Lendemer in 2015). Spot tests: K-, C-, KC-, P-, UV-.

**ETYMOLOGY.** – Named for its frequent occurrence on small dolomite pebbles.

**ECOLOGY AND DISTRIBUTION.** – On calcareous rock, usually dolomite, in western North America (California, Idaho, Montana, and Utah).

**DISCUSSION.** – *Acarospora erratica* usually produces dispersed verruciform areoles with solitary immersed apothecia. Infrequently the apothecial disc expands, reducing the thallus to a thin margin, forming pseudolecanorine apothecia (Knudsen & Kocourková 2017b). When the areoles become pseudolecanorine, *A. erratica* could be confused with some morphs of *A. canadensis* H. Magn. However, that calciphyte has an IKI+ deep blue euamyloid hymenial gel (Magnusson 1929). The rare *A. coloradiana* H. Magn. has verruciform to pseudolecanorine areoles, usually with solitary apothecia and subglobose to broadly ellipsoid ascospores (3.0–4.0 × 2.5–3.0 µm). It differs from *A. erratica* also in having euamyloid hymenial gel (IKI+ deep blue) and in forming pruinose thalli with distinct fissures, morphologically thus belonging to the *A. strigata* group sensu Nurtai et al. (2017). Two species that always form





**Figure 3.** *Acarospora erratica* (holotype, *Knudsen et al. 17026*). A, morphology of the thallus. B, detail of apothecium. C, vertical section of apothecial margin. D, paraphyses. E, ascospores. Scales = 1.0 mm in A & B, 20  $\mu$ m in C & D, and 10  $\mu$ m in E.



pseudolecanorine areoles, *A. janae* K. Knudsen and *A. toensbergii* K. Knudsen & Kocourk., occur on siliceous rocks (Knudsen & Kocourková 2017b; Knudsen et al. 2011). *Acarospora janae* differs from *A. erratica* in producing gyrophoric acid and has euamyloid hymenial gel. *Acarospora toensbergii* differs from *A. erratica* in having larger ascospores ( $7 \times 3 \mu\text{m}$  vs.  $3\text{--}4 \times 2.5\text{--}3.0 \mu\text{m}$ ) and a broad parathecium, while *A. erratica* has a very thin to indistinct parathecium. When *A. erratica* forms areoles with several apothecia, which is rare, it can easily be distinguished by the predominance of young subglobose to broadly ellipsoid ascospores ( $2\text{--}4 \times 2.5\text{--}3.0 \mu\text{m}$ ) and the low hymenium with hemiamyloid hymenial substances. It is necessary to carefully examine the iodine reactions according to the protocol outlined in the methods section above. Some species, like *A. erratica*, have a hymenial gel that can react light blue before turning red and will stay blue with IKI if IKI has a low iodine concentration.

*Selected specimens examined.* – **U.S.A. CALIFORNIA.** INYO CO.: Inyo National Forest, White Mountains,  $37^{\circ}23'11.6''\text{N}$ ,  $118^{\circ}10'39.9''\text{W}$ , 3037 m, 16.vii.2012, on dolomite in shade of Bristlecone Pines, K. Knudsen et al. 14793 (UCR); Shulman Grove,  $37^{\circ}23'05.4''\text{N}$ ,  $118^{\circ}10'36.7''\text{W}$ , 3052 m, 14.vii.2014, on dolomite on sunny slope, K. Knudsen 16941.1 (UCR). **IDAHO.** ELMORE CO.: 7 km NW of Mountain Home River Plain,  $43^{\circ}10'\text{N}$ ,  $116^{\circ}46'\text{W}$ , 985 m, vi.1991, on caliche pebble, B. McCune 19865 (OSC). SHOSONE CO., North Fork, Coeur D'Alene River Road,  $40^{\circ}09'33''\text{N}$ ,  $117^{\circ}45'01''\text{W}$ , 853 m, 30.v.2012, on Mount Shield dolomite, T. Wheeler 5784 (hb. Wheeler). **MONTANA.** LAKE CO.: south side of Bull Island in Flathead Lake,  $47^{\circ}6'\text{N}$ ,  $114^{\circ}7'\text{W}$ , 890 m, vii.1983, on HCl+ rock, B. McCune 12922 (OSC); Jocko River Canyon,  $47^{\circ}11'35''\text{N}$ ,  $113^{\circ}57'00''\text{W}$ , elevation not recorded, 3.iv.2012, on Sax helena Dolomite T. Wheeler 3829 (hb. Wheeler). LEWIS & CLARK CO.: E of Roger Pass,  $47^{\circ}05'52''\text{N}$ ,  $112^{\circ}21'37''\text{W}$ , 1554 m, 15.vii.2011, on Sax helena Dolomite, T. Wheeler 3478 (hb. Wheeler). LINCOLN CO.: Northern Salish Mountains, ca. 7 km S of Rexford,  $48^{\circ}50'11''\text{N}$ ,  $115^{\circ}11'19''\text{W}$ , 875 m, 30.vii.2006, on small green argillite rock in low elevation *Pseudotsuga menziesii*-*Pinus ponderosa* forest, T. Spribille 21134 (hb. Spribille); road running north from Murphy Lake Campground,  $48^{\circ}44'46''\text{N}$ ,  $114^{\circ}51'45''\text{W}$ , 970 m, 24.iv.2001, on loose calcareous rocks in sparsely vegetated opening in valley-bottom *Pseudotsuga menziesii*-*Larix occidentalis* forest, T. Spribille 10881 (hb. Spribille); Northern Salish Mountains, W of Trego, bedrock meadow above FS Road 494,  $48^{\circ}37'10''\text{N}$ ,  $115^{\circ}04'\text{W}$ , 1480 m, 27.vii.2006, on dolomitic erratic, T. Spribille 20743 (hb. Spribille). MISSOULA CO.: Blackfoot River,  $46^{\circ}54'28''\text{N}$ ,  $113^{\circ}43'11''\text{W}$ , 1045 m, 26.iii.2013, on dolomite river cobbles, T. Wheeler 5430 (hb. Wheeler). **UTAH.** San Juan Co.: Bridger Jack Mesa,  $37^{\circ}58'58''\text{N}$ ,  $100^{\circ}37'22''\text{W}$ , 1925 m, 10.v.2017, on calcareous red sandstone, J. Hollinger 17419 (hb. Hollinger).

## CONCLUSION

We continue to see new taxa of Acarosporaceae from North America north of Mexico and expect more species to be discovered and described. We are still a long way from a comprehensive assessment of Acarosporaceae in North America. The descriptions of these two species, the removal of *A. complanata* from the North American lichen checklist, and the recent publication of *A. tintickiana*, brings the current total to 66 species of *Acarospora* and 99 species of Acarosporaceae reported from North America north of Mexico. Nonetheless more new reports are inevitable.

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# A Preliminary Lichen Checklist of the Redstone Arsenal, Madison County, Alabama

CURTIS J. HANSEN<sup>1</sup>

**ABSTRACT.** – Lichens were surveyed across nine ecologically sensitive areas of the U.S. Army's Redstone Arsenal in Madison County, Alabama. From a total of 464 collections, 151 species in 64 genera were identified, including 12 state records and three new species currently being described. Prior to this study, only eight lichen species had been documented from the Redstone Arsenal and less than 40 were known from Madison County. Newly reported lichens for Alabama include *Caloplaca pollinii*, *Clauzadea chondrodes*, *Enchylium coccophorum*, *Hypotrachyna dentella*, *Lepraria xanthonica*, *Phaeophyscia hirsuta*, *Phaeophyscia leana*, *Physciella chloantha*, *Physconia leucoleiptes*, *Physconia subpallida*, *Punctelia graminicola*, and *Usnea halei*. Results from this study represent the first lichen survey of the Redstone Arsenal and will serve as a baseline for future studies.

**KEYWORDS.** – Lichen biodiversity, North America, northern Alabama, southern Highland Rim, Tennessee Valley, United States.

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## INTRODUCTION

Lichens of northern Alabama are poorly studied and virtually no records have been published from Madison County. Though many papers documenting lichens from nearby regions exist, including the Great Smoky Mountains (Lendemer et al. 2013) and Southern Appalachian Mountains (Dey 1978), there are no published lichen reports from this area of northern Alabama. One state-wide checklist documented two lichen species from Madison County (Hansen 2003). A search of the Consortium of North American Lichen Herbaria (CNALH 2017) resulted in only 38 lichen specimens from Madison County, including eight from Redstone Arsenal (hereafter abbreviated RA). Currently there is ongoing research to document the broad lichen biodiversity in the southern Appalachian Mountains, including in Madison County and several other northern Alabama counties (J.C. Lendemer and E.A. Tripp, pers. comm.).

In 1995, survey work was completed on federal and state-listed species of plants and animals found on RA from across nine ecologically sensitive areas (Godwin & Hilton 1995). In 2016, staff at the Auburn University Museum of Natural History were contracted to resurvey the ecologically sensitive areas for state and federally listed plants and animals, updating the original 1995 survey. Lichens were not included in the original 1995 survey but staff at RA were interested in having lichens surveyed for inclusion in the updated report. This study is the result of that survey work and represents the first systematic sampling of lichens across RA, documents many taxa for the first time from Madison County, Alabama.

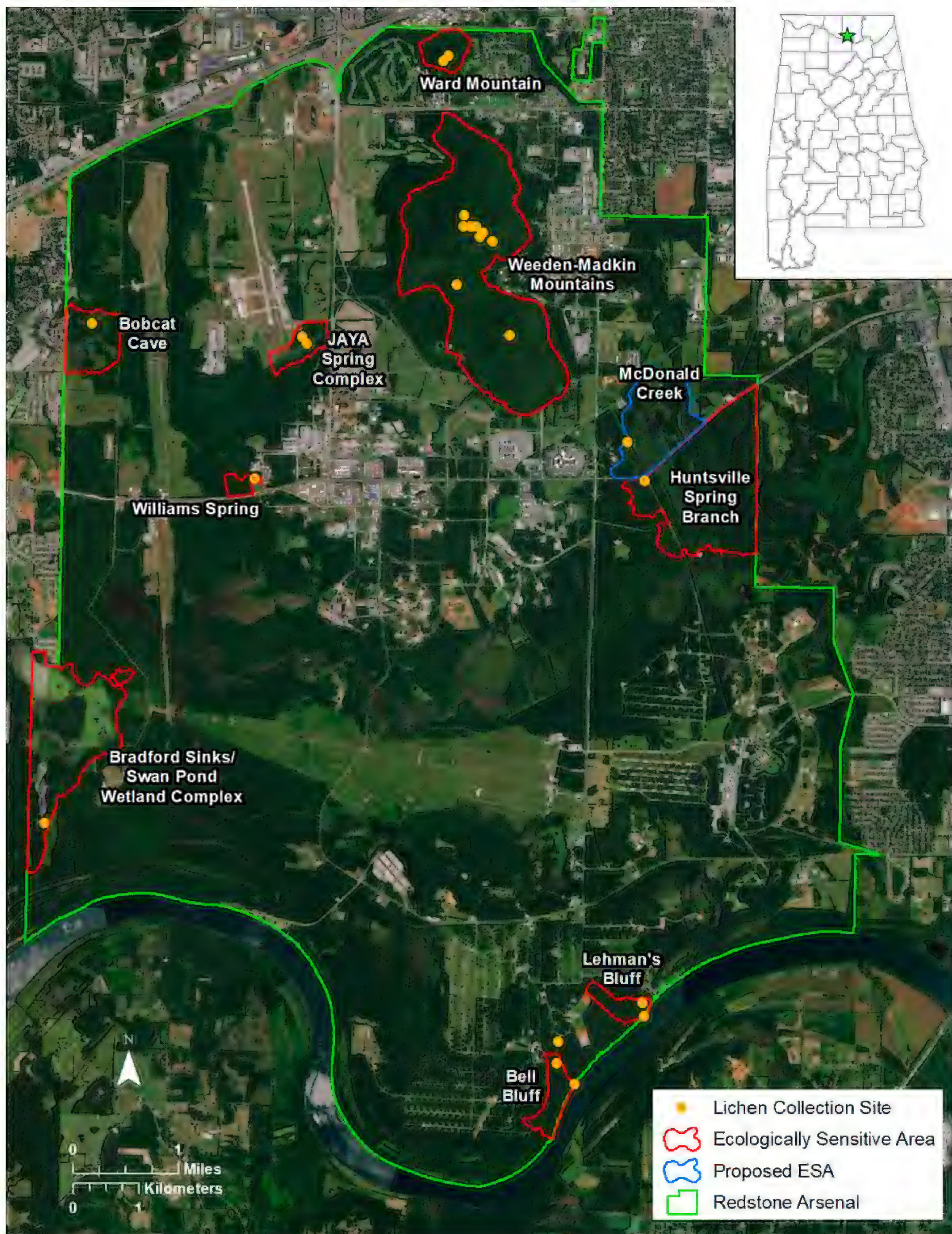
## MATERIALS AND METHODS

*The Study Area.* Redstone Arsenal is a 15,050 ha landholding southwest of Huntsville in Madison County, Alabama, and is owned by the U.S. Department of Defense. Originally created in 1941 to manufacture conventional ammunition and toxic chemicals during World War II (Fig. 1), RA has served as the Army's center for missile and rocket programs since 1948 (Baker 1993). The study area is located on

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**Figure 1.** The Redstone Arsenal boundary outlined in green with nine ecologically sensitive areas (ESA) outlined in red, one proposed ESA outlined in blue and lichen collection sites shown by orange dots.



the southern Highland Rim in north Alabama, in the Tennessee Valley physiographic region, and ranges in elevation from approximately 168 m along the Tennessee River, to 375 m on Madkin Mountain (Godwin & Hilton 1995). Most of RA has a substrate of Tusculumbia Limestone except for the mountainous regions which are of Monteagle Limestone with shelves and caps of Hartselle Sandstone on the lower slopes (Godwin & Hilton 1995). There are several cave systems on the property. Mean temperatures range from -0.5°C to 9.4°C in January and from 20°C to 31.6°C in July and mean annual rainfall is 140 cm with March receiving the most precipitation and October the least (Sterling 2013). Forested land is fragmented due to widespread urbanized and non-forested patches dispersed throughout the landscape (Bhuta et al. 2011).

Diverse habitat and plant community types found on RA include wetlands, streams, springs, glades, mountains and limestone bluffs. Bradford Sinks area and Huntsville Spring Branch are primarily standing water wetlands dominated by *Nyssa* and surrounded by floodplain forests of mixed *Carya-Quercus* woods. Jaya Springs, William Springs and Indian Creek are characterized by flowing water and are dominated by mesic, mixed hardwood forests. The dominant community types found on Madkin, Ward and Weeden Mountains are mixed hardwoods of *Carya-Juniperus-Quercus*. Bell Bluff and Lehman's Bluff, located at the south end of the RA, are characterized by steep, exposed bluffs and shelves of limestone above the Tennessee River. These areas are dominated by shrubby and herbaceous species immediately bordered by a *Carya-Juniperus-Quercus* community type (Godwin & Hilton 1995).

*Characterizations of inventoried sites.* – Brief descriptions of the sites inventoried as part of this study are listed below. Site abbreviations are referenced in the annotated checklist.

Bell Bluff (BB) – Is located at the south end of RA (Fig. 1) and is accessible by foot-trail leading off of Patten Road, SW. The trail leads for 0.5 mi south ending at the Tennessee River and passing through mixed hardwood forests dominated by *Celtis*, and through a glade-like habitat on shallow, somewhat rocky calcareous pavement. Approximately 0.3 mi south on the trail is an east facing slope with large sandstone boulders in mixed *Carya-Quercus* woods. At the Tennessee River, the habitat is dominated by mixed hardwoods, large limestone rocks and ledges and floodplain in a weedy community of *Ligustrum*, *Lonicera* and *Smilax*.

Bobcat Cave (BC) – Is located on the west side of RA and is dominated by open mixed hardwood forests among rocky limestone substrate. The canopy consists primarily of *Carya*, *Celtis*, *Liriodendron* and *Quercus*, in association with forbs such as *Agrimonia*, *Podophyllum*, *Trillium* and *Veronica*.

Bradford Sinks (BS; Fig. 2) – Is located in the southwest region of RA and consists of several large sinkhole ponds of standing water, surrounded by mixed hardwoods dominated by *Carpinus*, *Ilex* and *Quercus* and in association with *Vaccinium*. Bradford Sinks is associated with and a continuation of the Wheeler National Wildlife Refuge, leading from the west, and is periodically flooded by the Tennessee River.

Huntsville Spring Branch (HSB) – Is located on the eastern edge of the RA, south of Martin Road, and is a large wetland area with flowing streams, floodplains and large ponds. Forests are dominated by *Carya*, *Cornus*, *Nyssa* and *Quercus*.

Jaya Springs (JS; Fig. 2) – Is located in the central part of RA, west of Rideout Road and east of Hale Road. Indian Creek flows through this area creating an open marshy habitat. Surrounding forests are a mix of hardwoods, including *Acer*, *Betula*, *Carya*, *Cornus*, *Frangula*, *Liriodendron*, *Nyssa* and *Quercus*. A viney understory of *Berchemia*, *Parthenocissus*, *Toxicodendron* and *Vitis* was also found, growing in damp soil.

Lehman's Bluff (LB; Fig. 3) – Is found in the southeastern portion of RA, northeast from Bell Bluff and along the Tennessee River. This location was primarily found to have many moss-covered limestone boulders throughout the woods and that lead toward shear limestone bluffs above the Tennessee River. The *Carya-Juniperus-Quercus* forest has a diverse understory including, *Cardamine*, *Ilex*, *Ligustrum*, *Myriopteris Pella*, *Smilanthus*, *Trillium* and *Vaccinium*. This area is also heavily covered with invasive plants including *Lonicera japonica*, *L. maackii* and *Mahonia bealei*.





**Figure 2.** Selected habitats in the study area. Upper panel, open pond habitat at Bradford Sinks (photo C.J. Hansen). Lower panel, open marshy habitat at Jaya Springs (photo C.J. Hansen).



Madkin Mountain (MM) – Is located in the northern portion of the RA and is adjacent to, and just south of, Weeden Mountain. The mountain is composed of mixed hardwoods, *Juniperus* and rocky limestone boulders except for ledges and caps of sandstone partway up the mountain. Invasive plant species were abundant and included, *Lonicera fragrantissima*, *L. japonica*, *L. maackii*, *Smilax* and *Toxicodendron*. Associated native herbaceous understory included *Agrimonia*, *Cardamine*, *Podophyllum*, *Trillium* and *Viola*. Madkin and Weeden Mountains comprise one ecologically sensitive area at RA.

Ward Mountain (WM) – Is located at the extreme northern border of RA, adjacent to the city of Huntsville. Large limestone ledges and boulders transition from the summit to smaller and fewer rocks as the slope descends. The mixed hardwood forest is dominated by *Acer*, *Carya* and *Quercus* but also included some *Juniperus*.

Weeden Mountain (WEED) – Is located adjacent to, and just north of Madkin Mountain in the northeastern portion of RA. Weeden Mountain also has large boulders of limestone at the summit with mixed *Quercus-Carya-Fraxinus* forests. Down the southern slope are openings of limestone pavement and ledges, areas of open grass and narrow cedar glades surrounded by *Vaccinium*. Approximately 400 m southeast from the summit, at the power line right-of-way, ledges and rocks of sandstone occur in contrast to the limestone. Madkin and Weeden Mountains comprise one ecologically sensitive area.

Williams Spring (WS; Fig. 3) – Is found in the west-central portion of RA and has a small spring head of water emerging from underground. The surrounding hardwood canopy is quite shaded in season and is dominated by *Carya*, *Liquidambar* and *Quercus* with and understory of *Asimina*, *Commelina*, *Impatiens*, *Lindera* and *Packera*.

*Field and Herbarium Studies.* – Nine ecologically sensitive areas, identified by RA biologists and ecologists, were surveyed for lichens over the course of four collecting trips (8 field days) during 2017. Efforts were made to sample all substrates and habitats at each site. Specimens were collected from substrates using a hammer and chisels or a knife, and placed into paper sacks. The specimens were returned to the Freeman Herbarium (AUA) at the Auburn University Museum of Natural History for processing and identification. Primary sources used for identification included, Brodo (2016), Brodo et al. (2001), Dey (1978), Harris, (1995) and Lendemer et al. (2013) with additional references noted in the list. Morphological examinations and UV light fluorescence tests were performed along with standard spot tests (K, C, P, I) following Brodo et al. (2001). All reported taxa are based on vouchered specimens collected and identified largely by the author and, unless otherwise noted, deposited at the Freeman Herbarium (AUA) at Auburn University. Several duplicate collections were deposited in the herbaria of the New York Botanical Garden (NY) and University of Colorado (COLO) in exchange for identification.

## RESULTS AND DISCUSSION

A total of 464 lichen collections yielded 151 identified species belonging to 64 genera. With fewer than 40 lichens documented in Madison County, Alabama, most species reported here from RA represent new county records. The following 12 lichens are also reported new for the state (based on Hansen 2003, Hansen & Dute 2005, Hansen & Lendemer 2008, Hansen et al. 2008): *Caloplaca pollinii*, *Clauzadea chondrodes*, *Enchylium coccophorum*, *Hypotrachyna dentella*, *Lepraria xanthonica*, *Phaeophyscia hirsuta*, *Phaeophyscia leana*, *Physciella chloantha*, *Physconia leucoleiptes*, *Physconia subpallida*, *Punctelia graminicola*, and *Usnea halei*. In addition, three lichens, one each from *Buellia*, *Heterodermia* and *Lecanora*, correspond to species new to science and are currently in press elsewhere in other contributions (J.C. Lendemer, pers. comm.). Though not exhaustive, the current checklist of lichens represents the first systematic lichen survey of nine ecologically sensitive areas on RA and will serve as a baseline for future studies on the base, in Madison County and the surrounding region of northern Alabama.

## ANNOTATED CHECKLIST

The checklist presented below is organized alphabetically by genus then species, and the nomenclature largely follows Esslinger (2018) with some deviations according to preference of the author. Site abbreviations correspond to those given in Materials and Methods, collection numbers are those of the





**Figure 3.** Selected habitats in the study area. Upper panel, limestone rocks and cliff at Lehman's Bluff overlooking the Tennessee River (photo C.J. Hansen). Lower panel, small spring head and hardwood forest at Williams Spring (photo M. Callahan).



author, and unless otherwise indicated vouchers were deposited in the Freeman Herbarium (AUA) at Auburn University. Occasional synonyms and annotations are also included. **Bolded** entries correspond to new state reports for Alabama, an asterisk (\*) corresponds to new species that are currently being described, and there is one saprobic fungus, *Phaeocalicium polyporaeum*, designated by a plus sign (+).

- Alyxoria varia* (Pers.) Ertz & Tehler (syn. *Opegrapha varia* Pers.) – MM; 6372.  
*Anaptychia palmulata* (Michx.) Vain. – BB, WEED; 7016, 7076.  
*Anisomeridium distans* (Willey) R.C. Harris – MM; 6391.  
*Arthonia anglica* Coppins – BS; 6253.  
*Arthonia rubella* (Fée) Nyl. – BS, HS; 6246, 6303.  
*Bacidia schweinitzii* (Fr. ex Tuck.) A. Schneider – BC, BS, HA, JS, MM, WEED, WM; 6250, 6280, 6298, 6314, 6364, 6421, 6432, 6793, 6892.  
*Bagliettoa baldensis* (A. Massal.) Vězda – BB, LB, WM; 6289, 6324, 7098.  
*Bagliettoa caliciseda* (DC.) Gueidan & Cl. Roux – BC, LB, MM, WEED, WM; 6404, 6436, 6833, 6835, 6851, 6905, 6912, 6955, 6970.  
*Bagliettoa marmorea* (Scop.) Gueidan & Cl. Roux – MM, WEED; 6398, 6957.  
*Bathelium carolinianum* (Tuck.) R.C. Harris – HS, LB; 6302, 6881, 6884.  
*Botryolepraria lesdainii* (Hue) Canals, Hernández-Mariné, Gómez-Bolea & Llimona – LB, MM; 6406, 6857.  
*Buellia erubescens* Arnold (syn. *B. stillingiana* J. Steiner) – JS, LB, WS; 6270, 6773, 6800, 6875.  
*Buellia spuria* (Schaer.) Anzi – WEED; 6968.  
**\*Buellia sp. nov.** – MM; 6397 (NY, ined., J.C. Lendemer, pers. comm).  
***Caloplaca pollinii* (A. Massal.) Jatta** – WM; 6287B (NY, det. J.C. Lendemer). Reported from South Carolina and Tennessee in the southeastern United States (Wetmore 1994). This is the first published report for Alabama.  
*Candelaria concolor* (Dicks.) Stein – BS, LB, WEED, WM; 6256, 6815B, 6878, 6927.  
*Candelaria fibrosa* (Fr.) Müll. Arg. – BB, JS, MM, WEED, WM; 6279, 6287A, 6407, 6767, 6815A, 7008, 7053.  
*Canoparmelia caroliniana* (Nyl.) Elix & Hale – LB; 6880.  
*Canoparmelia texana* (Tuck.) Elix & Hale – BS, JS, WEED, WM; 6261, 6283, 6769, 6936.  
*Catillaria lenticularis* (Ach.) Th. Fr. – BB, LB, WEED; 6317, 6838, 6953B, 7103.  
*Chrysothrix xanthina* (Vain.) Kalb – JS, LB, WM; 6784, 6824, 6876.  
*Cladonia apodocarpa* Robbins – MM; 6369, 6378.  
*Cladonia caespiticia* (Pers.) Flörke – HS, MM, WEED; 6312, 6327, 6345, 6909.  
*Cladonia coniocraea* (Flörke) Sprengel – BB, JS, LB, MM, WEED; 6339, 6344, 6787, 6931, 7062.  
*Cladonia cristatella* Tuck. – WEED; 7021.  
*Cladonia didyma* (Fée) Vain. var. *didyma* – WEED; 6933.  
*Cladonia petrophila* R.C. Harris – BB; 7068.  
*Cladonia peziziformis* (With.) J.R. Laundon – BB, BC, LB, WEED; 6343, 6423, 6837, 6849, 6947, 6961, 7061.  
*Cladonia polycarpoides* Nyl. – WEED; 6962.  
*Cladonia ramulosa* (With.) J.R. Laundon – BS, LB; 6274, 6850.  
*Cladonia simulata* Robbins – BC; 6415 (det. J.C. Lendemer).  
*Cladonia squamosa* Hoffm. – WEED; 6932, 6948.  
*Cladonia subtenuis* (Abbayes) Mattick – WEED; 7019.  
***Clauzadea chondrodes* (A. Massal.) Clauzade & Cl. Roux** – LB; 6844  
*Coccocarpia palmicola* (Sprengel) Arv. & D.J. Galloway – BB, MM, WEED; 6355, 6893, 6940, 6973, 6997, 7069.  
*Collema subflaccidum* Degel. – MM, WEED, WM; 6282, 6375, 6926.  
*Collema texanum* Tuck. – LB; 6852.  
*Crespoa crozalsiana* (B. de Lesd. ex Harm.) Lendemer & B.P. Hodkinson – JS; 6760.  
*Dermatocarpon muhlenbergii* (Ach.) Müll. Arg. – BB, LB, MM, WEED, WM; 6293, 6294, 6319, 6380, 6839, 6904, 6967, 6981, 7105.



*Enchylium coccophroum* (Tuck.) Otálora, P. M. Jørg. & Wedin (syn. *Collema coccophorum* Tuck.) – BB, MM, WEED; 6381 (NY), 6951, 6965 (COLO), 6966, 7010, 7100. Found throughout north Alabama on limestone, this species was reported by Hansen (2003) based only on a distribution map but no vouchered specimen was cited from Alabama.

*Endocarpon pallidulum* (Nyl.) Nyl. – BB; 7050.

*Flavoparmelia baltimorensis* (Gyelnik & Förriss) Hale – BB, WEED; 6982, 7005, 7078.

*Flavoparmelia caperata* (L.) Hale – BS, HS, JS, MM, WEED, WS; 6263, 6307, 6349, 6765, 6810, 6891.

*Graphis scripta* (L.) Ach. – BC, BS, HS, JS, LB, WEED; 6255, 6299, 6430, 6761, 6885, 7014.

*Gyalecta farlowii* Tuck. ex Nyl. (syn. *Petractis farlowii* (Tuck. ex Nyl.) Vězda.) – BB, LB, WM; 6295, 6322, 7096.

*Gyalolechia flavorubescens* (Hudson) Søchting, Frödén & Arup (syn. *Caloplaca flavorubescens* (Hudson) J. R. Laundon) – WEED; 6919.

*Gyalolechia flavovirescens* (Wulfen) Søchting, Frödén & Arup (syn. *Caloplaca flavovirescens* (Wulfen) Dalla Torre & Sarnth.) – BB, LB, MM, WEED, WM; 6292, 6326, 6399, 6911, 7099.

*Heterodermia albicans* (Pers.) Swinscow & Krog – BB, HS, LB, MM, WM, WS; 6278, 6297, 6309, 6331, 6363, 6373, 6408, 6801, 6826, 6834, 6859, 7079.

*Heterodermia granulifera* (Ach.) W.L. Culb. – WEED; 6920.

*Heterodermia hypoleuca* (Ach.) Trevisan – MM, WEED; 6367, 6939.

*Heterodermia obscurata* (Nyl.) Trevisan – BB, JS, WEED; 6789, 6902, 6922, 6980, 7066, 7075.

*Heterodermia speciosa* (Wulfen) Trevisan – MM; 6348, 6379.

**\*Heterodermia langdoniana ined.** – WEED; 6996 (NY, J.C. Lendemer, pers. comm).

*Hyperphyscia syncolla* (Tuck. ex Nyl.) Kalb – BB, LB, WS; 6794B, 6811, 6873, 7057.

**Hypotrachyna dentella (Hale & Kurok.) Hale** – JS; 6791 (det. J.C. Lendemer).

*Hypotrachyna livida* (Taylor) Hale – BB, BS; 6265, 7048, 7064, 7087.

*Hypotrachyna minarum* (Vain.) Krog & Swinscow (syn. *Parmelinopsis minarum* (Vain.) Elix & Hale) – MM; 6368, 6410.

*Lecanora argentata* (Ach.) Malme – LB; 6341.

*Lecanora chlarotera* Nyl. – WS; 6797A (NY) (det. J.C. Lendemer).

*Lecanora hybocarpa* (Tuck.) Brodo – MM, WS; 6361, 6796, 6805.

*Lecanora louisianae* B. de Lesd. – LB; 6860.

*Lecanora oreinoides* (Körber) Hertel & Rambold – WEED; 6998.

*Lecanora pulicaris* (Pers.) Ach. – WS; 6806.

*Lecanora strobilina* (Sprengel) Kieffer – BS, JS; 6248, 6774.

*Lecanora subpallens* Zahlbr. – BS; 6262, 6798.

**\*Lecanora markjohnstonii ined.** – WEED; 6994 (NY, J.C. Lendemer, pers. comm.).

*Lecidella enteroleucella* (Nyl.) Hertel – WEED; 6971 (det. J.C. Lendemer).

*Lepra amara* (Ach.) Hafellner (syn. *Pertusaria amara* (Ach.) Nyl.) – WEED; 6993.

*Lepra pustulata* (Brodo & W.L. Culb.) Lendemer & R.C. Harris (syn. *Variolaria pustulata* (Brodo & W.L. Culb.) Lendemer, Hodgkinson & R.C. Harris) – BS, HS, WEED; 6247, 6305, 6897.

*Lepraria finkii* (Hue) R.C. Harris – BB, LB, MM, WEED; 6321, 6353, 6402, 6840, 7002, 7081, 7106.

*Lepraria harrisiana* Lendemer – WM; 6825 (det. J.C. Lendemer).

*Lepraria normandinoides* Lendemer & R.C. Harris – BB, WEED; 6983, 7072.

*Lepraria vouauxii* (Hue) R. C. Harris – HS; 6308 (det. J.C. Lendemer).

**Lepraria xanthonica Lendemer** – LB, WM; 6828 (COLO), 6836. Lendemer (2013) stated this taxon is infrequent but widely distributed in eastern North America. This is the first reported collection from Alabama.

*Leptogium austroamericanum* (Malme) C.W. Dodge – BB, LB, MM, WEED, WM; 6351, 6822, 6842, 6855, 6862, 6903, 6914, 7011, 7108.

*Leptogium chloromelum* (Ach.) Nyl. – WEED; 6990, 7013.

*Leptogium corticola* (Taylor) Tuck. – BB, WEED; 6972, 7063.

*Leptogium cyanescens* (Rabenh.) Körber – BB, BC, BS, HS, JS, LB, WEED, WM; 6258, 6281, 6311, 6315, 6318, 6330, 6425, 6759, 6792, 6987, 7082, 7101.

*Myelochroa aurulenta* (Tuck.) Elix & Hale – BB, BC, WEED; 6420, 6428, 7009, 7084.

*Myelochroa galbina* (Ach.) Elix & Hale – JS, WM, WS; 6771, 6782, 6797B, 6821.

*Myelochroa obsessa* (Ach.) Elix & Hale – BB, WEED; 6988, 7088.

*Ochrolechia africana* Vain. – HS, LB, MM, WM, WS; 6284, 6304, 6357, 6795, 6872.

*Ochrolechia mexicana* Vain. – LB; 6334.  
*Opegrapha vulgata* Ach. – MM; 6377.  
*Parmotrema austrosinense* (Zahlbr.) Hale – BS, JS, LB, WEED, WM; 6271, 6286, 6337, 6775, 6942.  
*Parmotrema hypotropum* (Nyl.) Hale – BB, JS; 6780, 6785, 7052.  
*Parmotrema perforatum* (Jacq.) A. Massal. – BB, BS, JS, LB, LS, WM; 6272, 6285, 6338, 6779, 6820, 6871, 7060.  
*Parmotrema reticulatum* (Taylor) M. Choisy – BB, BC, BS, HS, JS, MM, WEED, WM, WS; 6267, 6277, 6310, 6346, 6352, 6418, 6764, 6770, 6788, 6808, 6923, 6944, 6950, 7065.  
*Parmotrema stuppeum* (Taylor) Hale – WEED; 6901.  
*Parmotrema subisidiosum* (Müll. Arg.) Hale – BB; 7089.  
*Parmotrema submarginale* (Michx.) DePriest & B. Hale – LB; 6867.  
*Parmotrema tinctorum* (Delise ex Nyl.) Hale – BB, LB, WEED; 6332, 6879, 6895, 7067.  
*Peltigera praetextata* (Flörke ex Sommerf.) Zopf – WEED; 7001.  
*Pertusaria epixantha* R.C. Harris – BB, BS, HS, LB, WEED, WM; 6251, 6300, 6329 (det. E.A. Tripp), 6823A, 6829, 6918, 7049.  
*Pertusaria ostiolata* Dibben – BC, LB, MM, WEED; 6365, 6426, 6882, 6941, 7015.  
*Pertusaria paratuberculifera* Dibben – BC, MM, WEED; 6370, 6376, 6424, 6896, 6930B.  
*Pertusaria plittiana* Erichsen – BB, WEED; 6978, 7085.  
*Pertusaria pustulata* (Ach.) Duby – LB, WEED; 6336, 6866, 6930A.  
*Pertusaria subpertusa* Brodo – HS; 6306.  
*Pertusaria tetrathalamia* (Fée) Nyl. – WM; 6276.  
*Pertusaria texana* Müll. Arg. – LB, WEED, WM; 6827, 6913.  
+*Phaeocalicium polyporaeum* (Nyl.) Tibell – BC; 6434.  
*Phaeophyscia adiastrum* (Essl.) Essl. – BB, BC, JS, LB, WEED; 6320, 6422, 6435, 6439, 6762, 6845, 6906, 6986, 7003 (fertile, det. J.C. Lendemer), 7074, 7091, 7097.  
*Phaeophyscia ciliata* (Hoffm.) Moberg – BB, WS; 6794C, 7046.  
***Phaeophyscia hirsuta* (Mereschk.) Essl.** – LB, MM; 6388, 6403, 6877. Known from the Great Smoky Mountains (Lendemer et al. 2013) and locations further north and west (Esslinger 1978), this is the first report of this species from Alabama.  
***Phaeophyscia leana* (Tuck.) Essl.** – BS; 6260 (AUA, NY, det. J.C. Lendemer, confirmed by T.L. Esslinger). This new state record is the southernmost known occurrence of this rare species (Hansen & Lendemer in press; Lendemer 2009). It is endemic to the major tributaries in central eastern United States, including the Tennessee River, near where this specimen was found. See also Esslinger 1978.  
*Phaeophyscia pusilloides* (Zahlbr.) Essl. – BB, WM; 6813, 7051.  
*Phaeophyscia rubropulchra* (Degel.) Essl. – BB, BS, HS, MM, WEED, WS; 6252, 6254 (NY), 6313, 6358, 6807, 6899, 7092.  
*Phlyctis petraea* R.C. Harris, Muscavitch, Ladd & Lendemer – BB; 7070.  
*Phyllopsora corallina* (Eschw.) Müll. Arg. – WEED; 6921 (det. J.C. Lendemer).  
*Physcia americana* G. Merr. – JS, LB, MM, WEED; 6409, 6763, 6863, 6883, 6985 (NY), 6989 (NY), 7006.  
*Physcia millegrana* Degel. – JS, LB, MM, WM; 6335, 6414, 6766B, 6816.  
*Physcia neogaea* R.C. Harris – WEED; 6960 (det. J.C. Lendemer).  
*Physcia pumilior* R.C. Harris – JS, LB, WEED; 6333, 6413, 6869, 6777, 6929.  
*Physcia solediosa* (Vain.) Lynge – LB; 6328, 6848, 6865.  
*Physcia stellaris* (L.) Nyl. – WEED, WM; 6288A, 6814, 6819, 7007.  
*Physcia subtilis* Degel. – BB, WEED; 7000, 7090 (fide Esslinger 2017).  
***Physciella chloantha* (Ach.) Essl.** – MM, WEED, WS; 6412, 6794A, 6910, 6956, 6999, 7012. The distribution map of this species in Esslinger (1978), as *Physcia luganensis* Mereschk. (but see Esslinger 1986 for discussion), does not include Alabama and no other published reports of this species for the state have been found.  
***Physconia leucoleptes* (Tuck.) Essl.** – MM, WEED; 6360, 6371 (det. E.A. Tripp), 6382, 6387, 6938. Though found quite commonly in this region on limestone, this is apparently the first report for the Alabama. See also Esslinger 1994.  
***Physconia subpallida* Essl.** – WEED; 6907 (det. T.L. Esslinger). This is the southernmost known occurrence for this species (T. Esslinger, pers. comm.).



*Placidium arboreum* (Schwein. ex Tuck.) Lendemer (syn. *Dermatocarpon arboreum* (Schwein. ex Tuck.) Fink) – BB, LB, MM, WEED; 6400, 6841, 6856, 6964, 7104.

*Placynthium nigrum* (Hudson) Gray – WEED; 6952 (det. J.C. Lendemer). It is significant to note that Henssen (1963) reported this species from Lawrence County, Alabama, based on a single collection by Thomas Peters from 1874. Now, 145 years later, this species is confirmed to be extant in Alabama.

*Placynthium petersii* (Nyl.) Burnham – MM; 6396 (det. J.C. Lendemer).

*Porina heterospora* (Fink ex J. Hedrick) R.C. Harris – BS; 6259.

*Porpidia albocaerulescens* (Wulfen) Hertel & Knoph – WEED, WM; 6832, 6976.

*Protoblastenia rupestris* (Scop.) J. Steiner – WEED; 6954.

*Psora pseudorussellii* Timdal – MM, WEED; 6395, 6959, 7023.

*Punctelia bolliana* (Müll. Arg.) Krog – WEED; 6928, 6937, 6946.

*Punctelia caseana* Lendemer & Hodgkinson – WEED; 6924.

***Punctelia graminicola* (B. de Lesd.) Egan** – WEED; 6995 (det. J.C. Lendemer).

*Punctelia missouriensis* G. Wilh. & Ladd – BB, LB; 6861, 7093.

*Punctelia rudecta* (Ach.) Krog – BB, BC, BS, JS, LB, MM, WEED, WS; 6264, 6275, 6354, 6362, 6390, 6416, 6772, 6786, 6804, 6847, 6898, 6925, 6949, 7058.

*Pyrenula leucostoma* Ach. – BC, HS; 6301, 6433.

*Pyrenula pseudobufonia* (Rehm) R.C. Harris – BC, BS; 6249, 6429.

*Pyrenula punctella* (Nyl.) Trevisan – LB; 6858.

*Pyxine soorediata* (Ach.) Mont. – BB, JS, WEED, WS; 6790, 6803, 6890, 7059, 7080.

*Pyxine subcinerea* Stirt. – BS, LB, WM, WS; 6257, 6802, 6809, 6812, 6818, 6870.

*Ramalina americana* Hale – BB, BC, BS, JS, LB; 6268, 6273, 6340, 6417, 6766A, 6817, 6868, 7107.

*Ramalina culbersoniorum* LaGreca – JS; 6776 (det. J.C. Lendemer).

*Rinodina destituta* (Nyl.) Zahlbr. – WEED; 6977 (det. J.C. Lendemer).

*Sarcogyne regularis* Körber – WEED; 6953A, 6969.

*Scytinium apalachense* (Tuck.) Otálora, P. M. Jørg. & Wedin (syn. *Leptogium apalachense* (Tuck.) Nyl.) – LB; 6853.

*Scytinium lichenoides* (L.) Otálora, P. M. Jørg. & Wedin (syn. *Leptogium lichenoides* (L.) Zahlbr.) – LB, MM, WEED; 6342, 6386, 6854, 6917.

*Trapelia placodioides* Coppins & P. James – WEED; 6992.

***Usnea halei* P. Clerc** – BB; 7071 (det. J.C. Lendemer). Reported by Clerc & Herrera-Campos (1997) from Georgia, North Carolina, Tennessee and Virginia, in the southeastern United States, this is the first published report of this species from Alabama.

*Usnea strigosa* (Ach.) A. Eaton – BB, BC, BS, JS, WS; 6269, 6419, 6427 (NY), 6768, 6783, 6799, 7047.

*Usnea subscabrosa* Nyl. ex Motyka – WEED; 6894.

*Willeya diffractella* (Nyl.) Müll. Arg. (syn. *Staurothele diffractella* (Nyl.) Tuck.) – BC, LB, MM, WEED, WM; 6290, 6291, 6323, 6393, 6437, 6830, 6900, 6958.

*Xanthoparmelia conspersa* (Ehrh. ex Ach.) Hale – WEED; 6974A, 6979.

*Xanthoparmelia plittii* (Gyelnik) Hale – WEED; 6974B.

*Zwackhia viridis* (Pers. ex Ach.) Poetsch & Schied. (syn. *Opegrapha viridis* (Ach.) Nyl.) – BC; 6431.

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## New and Noteworthy Reports of Colorado Lichens and Lichen Allies, 1: *Phaeocalicium polyporaeum*

ERIN A. TRIPP<sup>1\*</sup>, RYAN AGABANI<sup>2</sup> AND R. TROY MCMULLIN<sup>3</sup>

**ABSTRACT.** – *Phaeocalicium polyporaeum* is reported from Colorado for the first time, based on a specimen collected by the first two authors, in 2018, from the Sangre de Cristo Mountains. This individual was growing on *Trichaptum abietinum* and furthermore represents the first record of *P. polyporaeum* in western North America in over 30 years. We provide discussion on its geographical range as presently understood, along with other notes of interest.

**KEYWORDS.** – biogeography, Colorado, distribution, lichen, rediscovery, record, report, range extension.

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### INTRODUCTION

Originally described from Hungary, *Phaeocalicium polyporaeum* (Nyl.) Tibell (Mycocaliciaceae) is an inconspicuous, saprophytic calicioid (stubble) fungus that inhabits the fruiting bodies of *Trametes versicolor* (L.) Lloyd (nearly cosmopolitan including throughout eastern and western North America; Carlson et al. 2014), *Trichaptum abietinum* (Pers.) Ryvarden (circumboreal northern hemisphere; Ryvarden & Gilbertson 1993), *T. bifforme* (Fr.) Ryvarden (tropical, temperate, and boreal habitats throughout North America and on other continents; MycoPortal 2018), and potentially other as yet undocumented fungal substrates. It is typically considered to be non-lichenized (Hutchinson 1987), but its consistent affiliation with green algal-laden upper surfaces of these macrofungi (see Selva 1988) leaves open the possibility of as yet undocumented nutrient transfer among two or more of these disparate organisms.

*Phaeocalicium polyporaeum* is relatively common throughout the eastern North American temperate hardwood forests (and similar biomes on other continents, e.g., Spier et al. 2008), closely tracking the distribution of its host fungi throughout this region (Hutchinson 1987; Selva 1988; LaGreca et al. 2005; Keller et al. 2007; McMullin 2012; McMullin & Lendemer 2013, 2016; Lendemer et al. 2016; Tripp & Lendemer, in press). In the area, it is probably more common than currently understood, owing to its small size and inconspicuousness to all but the closest observers. *Phaeocalicium polyporaeum* is essentially unknown from western North America except for a single collection made over 30 years ago in Saguaro National Monument near Tucson, Arizona (*Wetmore 55043*, MIN!; also see Tibell & Ryan 2004).

During a recent fieldtrip, as part of an undergraduate and graduate class taught at The University of Colorado, student participants explored local, lower montane slopes of the Sangre de Cristo Mountains for their lichen biodiversity. One fieldtrip participant and co-author of this study (RA), having recalled photographs of this stubble fungus in eastern North America from class lectures, discovered a population of *Trichaptum abietinum* that was densely colonized by *Phaeocalicium polyporaeum*. The present report represents its first known occurrence in Colorado and first collection in western North America since 1986.

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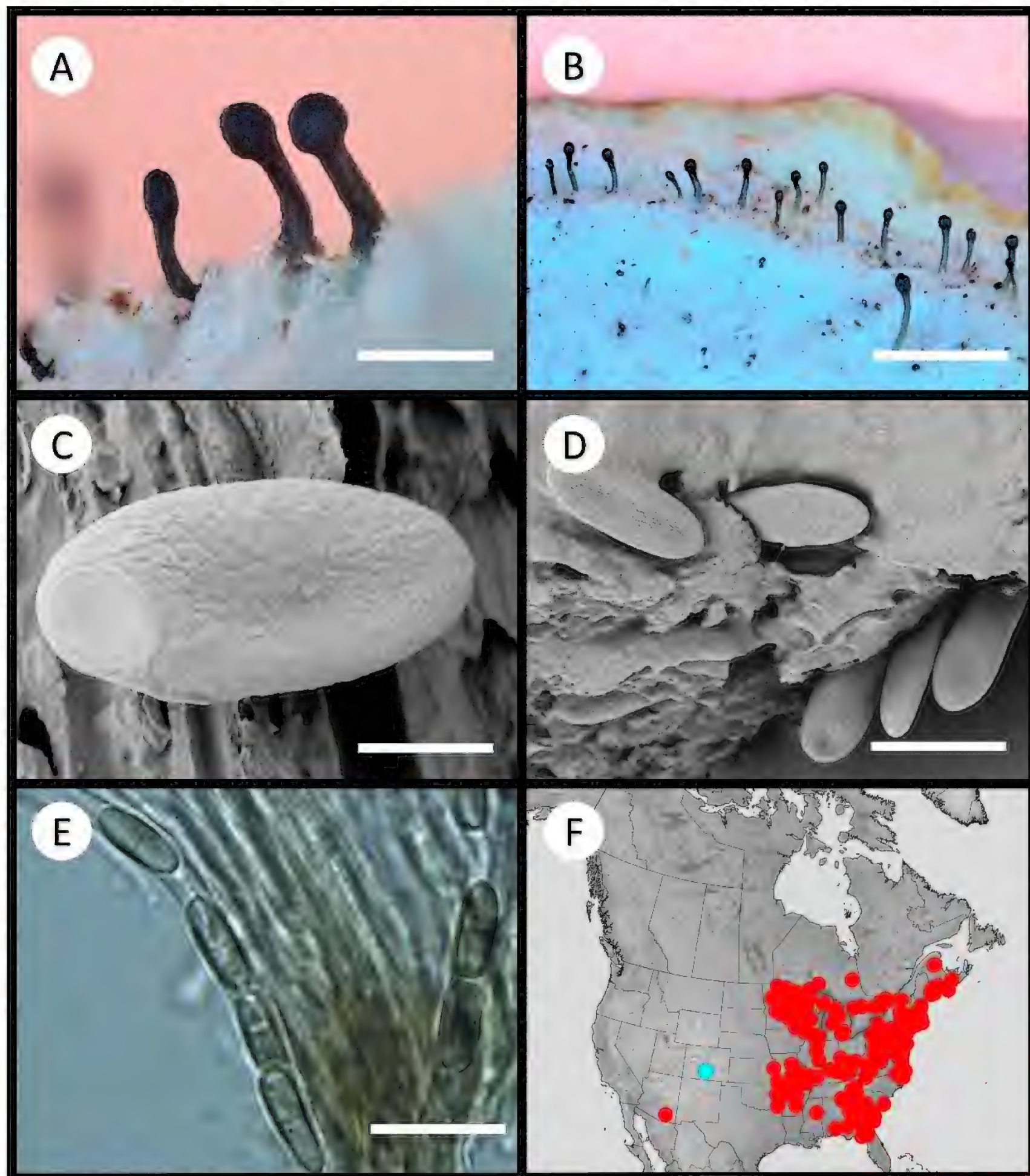
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**Figure 1.** Morphology and geographic distribution of *Phaeocalicium polyporaeum* (A-E from Tripp & Agabani 9003). A and B, apothecia of *P. polyporaeum* on *Trichaptum abietinum*. C and D, scanning electron micrograph of ascospores E, ascospores viewed in a water mount. F, distribution of *P. polyporaeum* in North America based on records in CNALH, blue dot = new record, red dots = previous records. Scales = 0.85 mm in A, 1.2 mm in B, 13  $\mu$ m in E, 10  $\mu$ m in D, 3  $\mu$ m in C.

#### MATERIALS AND METHODS

The present study is based on herbarium materials housed at The University of Colorado Herbarium (COLO), The Canadian Museum of Nature (CANL), The New York Botanical Garden (NY), and supplemented by specimen records available on the Consortium of North American Lichen Herbaria (CNALH; [www.lichenportal.org](http://www.lichenportal.org)).



Images of the apothecia were captured with a Leica DVM6 digital microscope (Fig. 1A and 1B). Using a FEI Apreo scanning electron microscope (SEM), images of the ascospores were captured at a 5 mm beam distance using the T1(A) detector (Fig. 1C and 1D). Specimens were prepared for SEM using a stereomicroscope to remove ascomata and placed onto an aluminum stub using double-sided carbon tape. The stub was placed in a Denton Vacuum Desk II sputter coater for 15 seconds, which deposited a thin mixture of gold and palladium onto the stub before imaging. Using a Leica DMR compound microscope, images of the ascospores were also captured in water on glass slides under oil immersion at 1000x magnification (Fig. 1E). The map was produced with SimpleMappr (Fig. 1F; Shorthouse 2010).

## RESULTS AND DISCUSSION

*Phaeocalicium polyporaenum* was treated by Hutchison (1987), who provided a full length morphological description as well as micrographs. Hutchison (1987) described its preferred substrate, *Trichaptum biforme* (= *Hirschioporus pargamensis* (Fr.) Bondartsev & Singer) as a common shelf fungus of eastern North America and this proposed association between fungus, substrate, and calicioid fungus has been widely confirmed in numerous other lichenological studies of eastern North America (Hutchison 1987; Selva 1988; LaGreca et al. 2005; Keller et al. 2007; McMullin 2012; McMullin & Lendemer 2013, 2016; Lendemer et al. 2016; Tripp & Lendemer 2019). However, *P. polyporaenum* has also been reported on *Trichaptum abietinum*, albeit much more rarely (Selva 2014). Whereas *T. biforme* grows on hardwood trees, *T. abietinum* occurs on conifers (Selva 2014). In western North America, both species occur, but the latter is more common (Ryvarden 1978). In this study, we found *P. polyporaenum* on *T. abietinum*, the latter growing on a decaying conifer presumed to be *Pseudotsuga menziesii* (Mirb.) Franco. However, definitive host tree identification was precluded owing to stage of decay,

The population reported in this study derived from lower montane habitat on the eastern slopes of the Sangre de Cristo Mountains, in dense, coniferous forest dominated by Douglas-fir (see below for a complete voucher citation). Its likely occurrence on Douglas-fir mirrors that of the 1986 record of this species in Arizona, which was also collected on a snag of Douglas-fir. Fieldwork in Colorado by the first author over the prior four years has resulted in observation of ample populations of the host fungus *Trichaptum abietinum* throughout Colorado, and in particular the Front Range Mountains. However, *Phaeocalicium polyporaenum* was not observed on any of these fungi until the present discovery.

Morphologically, *Phaeocalicium polyporaenum* is distinguished from other stubble fungi by its stalked apothecia without mazedia, and relatively long (9.0–16 x 3.0–4.5 µm), pale brown, ellipsoidal, 1-septate spores (Tibell 1975; Selva 2014). Another stubble species, *Chaenotheca balsamconensis*, J.L. Allen & McMullin commonly occurs on *Trichaptum abietinum*, which is its only known substrate, but it is easily distinguished by brown mazedia with single-celled, spherical spores (Allen & McMullin 2015).

The discovery of *Phaeocalicium polyporaenum* in Colorado is likely a reflection of the paucity of data on calicioid lichens and fungi in central and western North America. We expect that additional field work in Colorado targeting this overlooked group will yield more species of interest.

*Voucher for Colorado record.* – **U.S.A. COLORADO.** CUSTER CO.: Sangre de Cristo Mountains, San Isabel National Forest, Rainbow Trail ca. 3.2 km N of Alvarado Campground and ca. 2.4 km S of intersection with Goodwin Lake Trail, in vicinity of a small drainage that crosses the trail, lower montane, deeply shaded forest dominated by *Pseudotsuga menziesii*, 38.0882° -105.5864°, 3056 m, 11.vi.2018, fungicolous on *Trichaptum abietinum* on dead conifer, E. Tripp et al. 9003 (CANL!, COLO!).

*Additional specimens examined.* – **CANADA. NOVA SCOTIA.** HALIFAX CO.: Halifax, Point Pleasant Park, on Serpentine Rd. between Cambridge Dr. and Tower Hill Rd., coastal mixed-wood Acadian forest, 44.6220° -63.5721°, 24.vii.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 7098 (CANL!); Upper Tantallon, Old Annapolis Road Nature Reserve, along Old Annapolis Road Hiking Trail, ca. 720 m from the trailhead on Hiking Trail Road, ca. 30 m S of the trail, old-growth conifer dominated forest, tree cover primarily comprised of *Picea rubens* and *Tsuga canadensis*, with smaller amounts of *Abies balsamea*, *Acer rubrum*, *A. saccharum* and *Betula alleghaniensis*, 44.7511° -63.9426°, 25.vi.2017, fungicolous on *Trichaptum biforme*, R.T. McMullin 17366 (CANL!). **QUEENS CO.:** Kejimikujik National Park and National Historic Site, ca. 100 m W of Eel Weir Rd. and ca. 330 m E of Mill Bay, ca. 700 m S of junction with Kejimikujik Main Parkway, mature mixed-wood Acadian forest, tree cover dominated by

*Acer rubrum*, *Pinus strobus*, and *Quercus rubra*, 44.3770° -65.1995°, 1.xi.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 8019 (CANL!). Kejimikujik National Park and National Historic Site, ca. 780 m E of the trail at the end of Eel Weir Rd., ca. 850 m after the junction to Puzzle Lake, S of Square Camp Brook, mature mixed wood forest dominated by *Acer rubrum*, *Pinus strobus* and *Quercus rubra*, 44.3108° -65.2069°, 1.xi.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 8023 (CANL!).

**ONTARIO.** GREY CO.: Owen Sound, Inglis Falls Conservation Area, ca. 700 m N of Inglis Falls along the Bruce Trail, ca. 190 m E of trail, mature second-growth deciduous forest with low stem density and high canopy closure, tree cover dominated by *Acer saccharum* and *Fraxinus* sp. with some *Fagus grandifolia*, *Ostrya virginiana* and *Tilia Americana*, 44.5311° -80.9306°, 20.ix.2015, fungicolous on *Trichaptum biforme*, R.T. McMullin et al. 6382 (OAC!), R.T. McMullin et al. 6383 (OAC!). HALTON CO.: Speyside, Speyside Resource Management Area, ca. 100 m from trail head on 15 Side Rd., second-growth mixed-wood deciduous and conifer forest, 43.5771° -79.9760°, 24.vii.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 7941 (OAC!), R.T. McMullin 7944 (OAC!). KAWARTHA LAKES DIVISION: Uphill, Carden Alvar Natural Area, Ellen Larsen's personal property W side of Hwy 35 (Victoria Rd.) and ca. 800 m N of Alvar Rd., ca. 200 m SW from house, mature mixed-wood deciduous dominated forest, 44.7056° -78.9942°, 1.v.2015, fungicolous on *Trichaptum biforme*, R.T. McMullin 18250 (CANL!); Uphill, Carden Alvar Natural Area, alongside MacKenzie Rd. S of Monck Rd., Head River falls at MacKenzie Rd. on the N side along the river right-of-way, exposed non-calcareous rock with scattered deciduous trees, 44.7285° -79.0707°, 1.v.2015, fungicolous on *Trichaptum biforme*, R.T. McMullin 18348 (CANL!); Uphill, Carden Alvar Natural Area, Starr Property, ca. 100 m S of Hwy 45 (Monck Rd.), ca. 180 m W of Turner Rd. junction, mature mixed-wood forest with conifer and deciduous patches throughout along the Head River, 44.7241° -79.0509°, 27.xi.2015, fungicolous on *Trichaptum biforme*, R.T. McMullin 18430 (CANL!). NIAGARA CO.: Niagara, ca. 750 m W of Tremont Dr. along the Bruce Trail, low stem density old-growth deciduous mixed-wood forest bordering Hwy 406, tree cover dominated by *Acer* sp., *Fagus* sp., *Fraxinus* sp., *Ostrya* sp. and *Quercus* sp., 43.1284° -79.2338°, 6.vi.2015, fungicolous on *Trichaptum biforme*, R.T. McMullin et al. 6215 (OAC!); Rock Way Conservation Area, ca. 260 m N along Rockway Side Trail from the Bruce Trail junction, ca. 100 m E of trail, on the escarpment, low stem density old-growth deciduous mixed-wood forest, tree cover dominated by *Acer* sp., *Fagus* sp., *Fraxinus* sp., *Ostrya* sp. and *Tsuga* sp., 43.1143° -79.3178°, 7.vi.2015, fungicolous on *Trichaptum biforme*, R.T. McMullin et al. 6255 (OAC!), R.T. McMullin et al. 6256 (OAC!). SIMCOE CO.: Copeland Forest Resources Management Area, ca. 120 m W of 5 Line N, 2.6 km S of Ingram Rd., young forest with a few old trees, rock wall and tree wall, tree cover dominated by *Acer saccharum*, *Betula papyrifera* and *Pinus sylvestris*, 44.5769° -79.6592°, 17.ix.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 8064 (OAC!); Copeland Forest Resources Management Area, ca. 670 m W of 5 Line N, 2.2 km S of Ingram Rd., moist valley, mature second-growth trees around small pond, exposed sandy soil, tree cover dominated by *Betula alleghaniensis*, *B. papyrifera*, *Fagus grandifolia* and *Tsuga canadensis*, 44.5792° -79.6683°, 4.x.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 8066 (OAC!); Copeland Forest Resources Management Area, ca. 900 m W of 5 Line N at S edge of the management area, mature and dry second-growth deciduous forest, tree cover dominated by *Acer saccharum*, *Fagus grandifolia* and *Fraxinus americana*, 44.5683° -79.6606°, 17.ix.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 8085 (OAC!); Copeland Forest Resources Management Area, ca. 900 m E of the NW parking area along hiking trail S of rail line, mature second growth forest along pond, tree cover dominated by *Acer rubrum*, *Acer saccharum*, *Fagus grandifolia*, *Thuja occidentalis* and *Tsuga canadensis*, 44.5803° -79.6875°, 15.ix.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 8090 (OAC!), R.T. McMullin 8102 (OAC!); Copeland Forest Resources Management Area, ca. 1 km Ss of Ingram Rd. on 5 Line N, mature second-growth mixed woods along river, tree cover dominated by *Abies balsamea*, *Acer saccharum*, *Betula alleghaniensis*, *B. papyrifera*, *Thuja occidentalis*, *Tilia americana* and *Tsuga canadensis*, 44.5892° -79.6678°, 16.ix.2011, fungicolous on *Trichaptum biforme*, R.T. McMullin 8098 (OAC!); Awenda Provincial Park, Deer Campground, ca. 110 m W of end of campground road, ca. 30 m N of road, second-growth deciduous forest, tree cover dominated by *Acer saccharum*, *Fraxinus americana* and *Quercus rubra*, 44.8357° -80.0166°, 3.vi.2013, fungicolous on *Trichaptum biforme*, R.T. McMullin 13094 (OAC!); Awenda Provincial Park, E shore of Macey Lake, boreal bog habitat with scattered snags, tree cover dominated by *Larix laricina* and *Picea mariana*, 44.8151° -80.0032°, 20.viii.2013, fungicolous on *Trichaptum biforme*, R.T. McMullin 13130 (CANL!); Awenda Provincial Park, W shore of Kettle's Lake, ca. 190 m S of trail to water's edge, second-growth mixed wood forest, tree cover dominated by *Acer saccharum*, *Betula alleghaniensis*, *Picea*, *Pinus strobus* and *Thuja occidentalis*, 44.8439° -79.9825°, 4.vi.2013, fungicolous on



*Trichaptum biforme*, R.T. McMullin 13322 (CANL!). UNORGANIZED NORTH COCHRANE DISTRICT: Potter Township, Iroquois Falls Forest North, on unnamed road ca. 430 m S of the intersection that is E of the road that accesses Zinger Lake in Little Abitibi Provincial Park, ca. 60 m due W of the road, tree cover dominated by *Abies balsamea*, *Betula papyrifera*, *Picea mariana* and *Pinus banksiana*, 49.3957° -80.7310°, 14.viii.2008, fungicolous on *Trichaptum biforme*, R.T. McMullin 11027 (OAC!); Tweed Township, Iroquois Falls Forest North, at the intersection of Hwy 652 and unnamed road W of Baker Lake, tree cover dominated by *Picea mariana* and *Populus tremuloides*, 49.4636°, -80.4203°, 4.viii.2008, fungicolous on *Trichaptum biforme*, R.T. McMullin 10629 (OAC!). UNORGANIZED THUNDER BAY DISTRICT: Spruce River Forest, ca. 65.3 km N of Hwy 17 on the unnamed road W of Upsala, E side of South Allely Lake, tree cover dominated by *Pinus banksiana* and *Populus tremuloides*, 49.5623° -90.3790°, 5.viii.2009, fungicolous on *Trichaptum biforme*, R.T. McMullin 11754 (OAC!). WELLINGTON CO.: Guelph, University of Guelph, Arboretum, Victoria Woods, well developed second growth forest, 43.5355° -80.2181°, 19.iii.2010, fungicolous on *Trichaptum biforme*, R.T. McMullin 11806 (OAC!); Guelph, Ignatius Jesuit Centre, North Star Trail, ca. 350 m from trail start in clockwise direction, mature treed wetland, *Acer* dominated, 43.5715° -80.3017°, 7.xii.2015, fungicolous on *Trichaptum biforme*, R.T. McMullin 17008 (CANL!). YORK CO.: Vaughan, Nevada Park, trail W of Hunterwood Chase, ca. 100 m NW along branch off of loop trail, mature mixed-wood forest, 43.8850° -79.5029°, 14.vi.2015, fungicolous on *Trichaptum biforme*, R.T. McMullin 15650 (OAC!). **PRINCE EDWARD ISLAND.** KINGS CO.: Dromore, Dromore Wildlife Management Area, ca. 250 m N of Campbell Rd. along first trail to the E of Pisquid River, mixed wood, second-growth forest, conifer dominated with *Abies balsamea*, *Acer rubrum* and *Picea*, 46.3084° -62.8299°, 7.x.2014, fungicolous on *Trichaptum biforme*, R.T. McMullin 14875 (OAC!); Mount Hope, Forest Hill Wilderness Management Area, ca. 1300 m E of Cumberland Rd. on the Forest Hill Hiking Trail, ca. 300 m N on trail that bisects Forest Hill Hiking Trail, mature mixed wood forest dominated by *Acer rubrum*, 46.3566° -62.5102°, 6.x.2014, fungicolous on *Trichaptum biforme*, R.T. McMullin 14754 (OAC!). **U.S.A. ARIZONA.** PIMA CO.: Saguaro National Monument, Rincón Section, Italian Spring, 32.2283° -110.5411°, 21.v.1986, fungicolous on douglas fir snag, *C. Wetmore* 55043 (MIN!). **GEORGIA.** MCINTOSH CO.: Sapelo Island, Sapelo Island Wildlife Management Area, Lighthouse Point, mesic maritime scrub, tree cover dominated by *Celtis laevigata*, *Juniperus virginiana*, *Melia azedarach*, *Sideroxylon tenax* and *Xanthoxylem clava-herbulis*, 31.3917°, -81.2859°, 26.iii.2013, fungicolous on *Trichaptum biforme*, R.T. McMullin 12160 et al. (OAC!); Sapelo Island, Sapelo Island Wildlife Management Area, West Perimeter Road/Airport Rd., ca. 150 m S of northernmost intersection of Airport Rd., tree cover dominated by *Liquidambar styraciflua*, *Magnolia grandiflora*, *Pinus taeda*, *Prunus serotina*, *Quercus virginiana* and *Q. hemisphaerica*, 31.4560° -81.2699°, 26.iii.2013, fungicolous on *Trichaptum biforme*, R.T. McMullin et al. 12188 (OAC!). **MICHIGAN:** MACKINAC CO.: Hiawatha National Forest, vicinity of East Lake Borrow Pit, ca. 14.3 km N of MI-123 along East Lake Rd., ca. 290 m due W of intersection of Jersey Rd. and East Lake Rd., ca. 70 m due S of USFS 3129, dolomite borrow pit with adjacent mixed hardwood forest, tree cover dominated by *Acer*, *Betula*, *Fagus*. and *Fraxinus* sp., 46.1117° -84.7928°, 21.v.2015, fungicolous on *Trichaptum biforme*, R.T. et al. McMullin 16245(CANL!). **NORTH CAROLINA.** DARE CO.: Alligator River National Wildlife Refuge, Brier Hall Rd. ca. 400 m – 800 m S of junction with Mallard Rd., ca. 400 m N of US64, tree cover dominated by *Ilex opaca*, *Acer*, *Liquidambar*, *Nyssa*, *Persea*, and *Pinus*, 35.8828° -75.9375°, 21.iii.2014, fungicolous on *Trichaptum biforme*, R.T. et al. McMullin 13524 (OAC!). HAYWOOD CO.: Great Smoky Mountains National Park, McKee Branch Trail, ca. 1.32 km along the trail W of the junction with Cataloochie Divide Trail, mature mixed-wood forest, deciduous dominated in protected river valley, 35.5849° -83.0867°, 25.x.2017, fungicolous on *Trichaptum biforme*, R.T. McMullin 19055 & J.C. Lendemer (NY!). HYDE CO.: Alligator River National Wildlife Refuge, Chip Rd. ca. 3.2 km SW of junction with Whipping Creek Rd., pocosin tree cover dominated by *Gordonia* sp. and *Pinus* sp., 35.6444° -75.9783°, 23.iii.2014, fungicolous on *Trichaptum biforme*, R.T. McMullin et al. 13657 (OAC!). SWAIN CO.: Great Smoky Mountains National Park, Lakeshore Trail, ca. 260 m along trail S of junction with Cemetery Access Trail, mature mixed-wood forest, deciduous dominated with scattered conifers, 35.4670° -83.5586°, 29.x.2017, fungicolous on *Trichaptum biforme*, R.T. McMullin 19124 & J.C. Lendemer (NY!).

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# Contributions to the knowledge of lichenicolous fungi on *Thamnolia*

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**ABSTRACT.** – *Capronia thamnoliae*, *Cercidospora thamnoliae* and *Cercidospora thamnoliicola* are reported new to Japan; *Endococcus thamnoliae* new to Papua New Guinea; *Merismatium thamnoliicola* new to Norway; *Polycoccum vermicularium* new to Argentina, Australia, Colombia, Japan, Nepal and Papua New Guinea; *Sphaerellothecium thamnoliae* var. *taiyriticum* new to Nepal; *S. thamnoliae* var. *thamnoliae* new to Australia, Falkland Islands, Japan and Papua New Guinea; *Sphaeropezia santessonii* new to Japan; *Stigmidium frigidum* new to Japan; *Thamnogalla crombiei* new to Australia, Bhutan, India, Japan, Nepal, North Korea and Papua New Guinea. *Cornutispora ciliata* is newly reported from *Thamnolia*. Material of *Polycoccum vermicularium* is shown to be morphologically heterogeneous.

**KEYWORDS.** – Biodiversity, biogeography, lichenicolous mycobiota.

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## INTRODUCTION

*Thamnolia* Ach. ex Shaer. (Icmadophilaceae) is among the host lichen genera with the highest diversity of known lichenicolous fungi (Diederich et al. 2018b). At least 26 species of these fungi have been documented from *Thamnolia* (Diederich et al. 2018a; Zhurbenko 2012, 2017; also herein). Although thamnoliicolous fungi have been specifically treated by Ihlen (1995) and Zhurbenko (2012), including an identification key presented in the latter, their distribution and frequency is still poorly known. Here we provide new distributional records, range extensions and taxonomic notes on thamnoliicolous fungi that were found in conjunction with examining material at several major herbaria.

## MATERIALS AND METHODS

This study is based on 81 specimens of lichenicolous fungi found on *Thamnolia* deposited in H (33 specimens) and TNS (48 specimens). Microscopical examination was carried out using a Zeiss Axio Imager A1 microscope equipped with Nomarski differential interference contrast optics (DIC) in water, 10% KOH, Lugol's iodine, directly or after a KOH pre-treatment or brilliant cresyl blue. The length, breadth and length/breadth ratio (l/b) of ascospores are given as: (min–){X–SD}–{X+SD}(–max), where “min” and “max” are the extreme observed values, X the arithmetic mean and SD the corresponding standard deviation. Measurements were taken from water mounts.

## NOTES AND NEW DISTRIBUTIONAL RECORDS

Recent phylogenetic studies published by Onut-Brännström et al. (2018) have drastically changed the taxonomy of *Thamnolia*, which currently comprises three species: 1) *T. subuliformis* (Ehrh.) W.L.Culb. s.str. including two chemotypes with baeomycesic and squamatic acids (UV+) or thamnolic acid (UV–)

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and exhibits a distribution that is circumpolar in the Arctic and in the alpine areas of both hemispheres; 2) *T. tundrae* Brännström & Tibell containing baeomycesic and squamatic acids (UV+) and known from the Eurasian Arctic and the Aleutian Islands; 3) *T. vermicularis* (Sw.) Schaer. s.str. containing thamnolic acid (UV-) and known from the high alpine regions of Central Europe (the Alps, Tatra Mountains and the Western Carpathian Mountains). These species are morphologically cryptic, in part sympatric, and can only be confidently identified using molecular data. As such the original identifications of *Thamnolia* host species for the taxa reported here should be revised. However, such revision is problematic because many specimens have not been sequenced. Due to this, and the fact that most of thamnoliicolous fungi species appear not to be restricted to a single host species, we omit below the species names of the hosts in the specimen citations below.

***Capronia thamnoliae* Zhurb.**

NOTE. – The species was formerly known from several finds in Canada, Norway, Russia and the U.S.A. (Zhurbenko 2012) and is here newly reported for Japan.

*Specimens examined* (all on decaying podetia of *Thamnolia* spp.). – **JAPAN. HONSHU:** Shinano Province (Nagano Prefecture), Yatsugatake Mountains, Mount Yoko-dake, Chino-shi, 35°59'N 138°22'E, elev. 2700 m, 5.viii.1990, *H. Shibuichi* 8782a (TNS); Shinano Province (Nagano Prefecture), Yatsugatake Mountains, Mountain Ioh-dake, 36°00'N 138°22'E, elev. 2700 m, 9.viii.1988, *H. Shibuichi* 8427 (TNS). **U.S.A. ALASKA:** Juneau Icefield, summit of mountain above Taku Glacier, 58°42'N 134°13'W, elev. 1460 m, 19.vii.1962, *H.A. Imshaug* 28916a (TNS).

***Cercidospora thamnoliae* Zhurb.**

NOTE. – The species was formerly known from Norway and Russia (Ihlen 1995, Zhurbenko 2012) and is here newly reported for Japan.

*Specimen examined.* – **JAPAN. HONSHU:** Iwashiro Province (Fukushima Prefecture), Iide Mountains, Mount Iide, Yama-gun, 37°51'N 139°42'E, elev. 2000 m, 26.viii.1975, *H. Shibuichi* 5127a (TNS).

***Cornutispora ciliata* Kalb**

NOTES. – The species grows on various lichen genera (Diederich et al. 2018b) and is here newly reported from *Thamnolia*. The only species of *Cornutispora* previously known to occur on *Thamnolia* is *C. intermedia* Punith. & D.Hawksw. (Etayo 2010).

*Specimen examined.* – **U.S.A. ALASKA:** Alaska Range, Mountain Hayes Quadrangle, Gerstle River outwash gravel, 63°51'N 144°53'W, elev. 375 m, 23.vi.1966, *L.A. Viereck* 7971a (H).

***Endococcus thamnoliae* Etayo & R.Sant.**

NOTES. – Based on the material that we have examined, the range of variation in the size of the ascospores is somewhat larger than indicated in the protologue ((7.4–)8.8–11.0(–13.2) × (3.2–)3.7–4.5(–5.4) µm, l/b = (1.8–)2.1–2.7(–3.4), n = 133 vs. 9–12.5 × 3.5–5 µm *fide* Etayo 2010). The species was formerly known from Peru (Etayo 2010) and is here reported for the first time outside South America from Papua New Guinea.

*Specimens examined.* – **PAPUA NEW GUINEA. WESTERN HIGHLAND DISTRICT:** between Pindaunde Lakes and summit of Mount Wilhelm, elev. 4100–4200 m, 31.xii.1973, *H. Kashiwadani* 11006 (TNS), *H. Kashiwadani* 10831 (TNS). **CENTRAL DISTRICT:** Mount Albert Edward, elev. 3000–3450 m, 25.x.1975, *S. Kurokawa* 9401 (TNS). **PERU. JUNIN REGION:** Jauja Province, 30 km (road distance) NNW of Jauja, 11°35'S 75°35'W, elev. 4100 m, 10.ii.1981, *R. Santesson et al. s.n.* (H); Tarma Province, between La Oroya and Junin, S of the turn towards San Pedro, 11°17'S 75°56'W, elev. 4200 m, 16.ii.1981, *R. Santesson & R. Moberg s.n.* (H).

***Lichenopeltella thamnoliae* R.Sant.**

NOTE. – The species is known only from South America, where it is rather widely distributed (Etayo 2010, 2017; Santesson 1998; Zhurbenko 2012).

*Specimens examined.* – **COLOMBIA. BOYACÁ DEPARTMENT:** Páramo de Pisva, 5 km E of Los Pinos, elev. 3750 m, 14.vi.1972, *A.M. Cleef* 4540 (H); Páramo de la Sarna between Sogamoso and Vado Hondo, 5 km NE of Laguna de Tota, elev. 3550 m, 29.iii.1973, *A.M. Cleef* 9203 (H). **VENEZUELA. MÉRIDA:** near Pico el Aguilo, elev. 4025 m, 18.viii.1989, *R. Ornduff s.n.* (H).



***Merismatium thamnoliicola* Alstrup & E.S.Hansen**

NOTE. – The species was formerly known from Greenland and Russia (Alstrup & Hansen 2001, Zhurbenko 2012) and is here newly reported for Norway.

*Specimen examined.* – **NORWAY. SÖR-TRÖNDELAG:** Kongsvoll, vii.1933, *E.P. Vrang s.n.*[c] (H).

***Polycoccum vermicularium* (Linds.) D.Hawksw.**

NOTES. – The dimensions of the ascospores calculated from all the examined specimens vary considerably ((12.9–)15.4–18.8(–22.0) × (6.4–)7.3–8.7(–9.6) µm, l/b = (1.6–)2.0–2.4(–2.8), n = 238). However, in the material from South America the length on average was somewhat shorter (14.6–18.2 µm) than in the material from the northern Holarctic (16.4–19.8 µm), which suggests that the material is taxonomically heterogeneous. It is also noteworthy that typically ascomata are aggregated in dense groups and often protruding in the ostiolar area, but in some well-developed specimens from South America (e.g., *Cleef 1786*, *Imshaug 40468b*, *Imshaug 41387 & Harris*, *Imshaug 53198 & Ohlsson*) they are exclusively dispersed and not protruding. The species is widely distributed in both hemispheres (Alstrup & Hawksworth 1990, Etayo 2010, Etayo & Sancho 2008, Flakus & Kukwa 2012, Hafellner 1994, Hawksworth & Diederich 1988, Santesson et al. 2004, Zhurbenko 2012) and is here newly reported for Argentina, Australia, Colombia, Japan, Nepal and Papua New Guinea.

*Specimens examined.* – **ARGENTINA. ISLA DE LOS ESTADOS:** Cabo San Bartolome, N slope of W end of peninsula, 54°54'S 64°42'W, 5.xi.1971, *H. Imshaug 53198 & K. Ohlsson* (H). **AUSTRALIA. VICTORIA:** Bogong High Plains, Mount McKay, 27.i.1967, *R. Filson 9654* (H). **CANADA. ONTARIO:** Kenora District, Fort Severn, 56°00'N 87°28'W, 2.viii.1958, *T. Ahti s.n.*[b] (H). **CHILE. MAGALLANES REGION:** near base of Monte Aymond, 52°09'S 69°29'W, 9.x.1971, *H. Imshaug 49809 & K. Ohlsson* (H). **COLOMBIA. BOYACÁ DEPARTMENT:** Paramos al NW de Belen, vereda S. Jose de la Montana, alto de las Cruces y alrededores Cabeceras Q. El Toral, elev. 3830 m, 24.xi or ii.1972, *A.M. Cleef 1786* (TNS). **FALKLAND ISLANDS.** East Falklands, Stanley, summit of Mount Kent, elev. 460 m, 14.i.1968, *H.A. Imshaug 40468 & R.C. Harris* (TNS); West Falklands, Port Howard, summit of Mount Maria, elev. 630 m, 28.i.1968, *H.A. Imshaug 41387 & R.C. Harris* (TNS). **NEPAL.** Himalaya, between Sangda and Kagbeini, elev. 4300 m, 12.v.1953, *S. Nakao s.n.* (TNS); Gandaki & Dhawalagiri Zones, Manang & Mustang Districts, Thorung Phedi (4370 m)–Thorung La (5110 m)–above Muktinath (3720 m), elev. 4850 m, 19.viii.1994, *M. Mikage et al. 9460415-13a* (TNS). **JAPAN. HONSHU:** Shinano Province (Nagano Prefecture), Yatsugatake Mountains, 35°58'N 138°22'E, 27.vii.1959, *M. Togashi & S. Kurokawa s.n.*[b] (TNS). **NORWAY. SVALBARD:** Spitsbergen, Ossian Sarsfjellet, Kongsfjorden, elev. 0–100 m, 25.vii.1985, *H. Kashiwadani 23219* (TNS). **HORDALAND:** parish Granvin, Mount Nesheimshorgen, elev. 1000 m, ix.1915, *J.J. Havaas s.n.* (H). **PAPUA NEW GUINEA. WESTERN HIGHLAND DISTRICT:** between Pindaunde Lakes and summit of Mount Wilhelm, elev. 4150 m, 31.xii.1973, *H. Kashiwadani 11154a* (TNS). **PERU. ANCASH REGION:** Huaraz Province, road Huaraz–Casma, 31 km (road distance) WSW of Huaraz, 9°33'S 77°41'W, elev. 4100 m, 27.ii.1981, *R. Santesson & R. Moberg s.n.* (H). **JUNIN REGION:** border of Jauja and Tarma Provinces, km 37 of the road between Jauja and Tarma, 11°35'S 75°35'W, elev. 4140 m, 18.ix.1977, *D. Vitt 21661* (H). **SWEDEN. ÖLAND:** Sandby, Ekelunda, northernmost part of Stora Alvaret, 31.v.2000, *R. Skytén 6490* (H). **JÄMTLAND:** Åre parish, Mount Snasahögarna, elev. 730 m, 14.viii.1975, *H. Vänskä 7529* (H).

***Sphaerellothecium thamnoliae* Zhurb. var. *taimyricum* Zhurb.**

NOTE. – This taxon was formerly known from Russia (Zhurbenko 2012) and is here newly reported from Nepal.

*Specimen examined.* – **NEPAL.** Gandaki & Dhawalagiri Zones, Manang & Mustang Districts, Thorung Phedi (4370 m)–Thorung La (5110 m)–above Muktinath (3720 m), elev. 4850 m, 19.viii.1994, *M. Mikage et al. 9460415-13b* (TNS).

***Sphaerellothecium thamnoliae* Zhurb. var. *thamnoliae***

NOTES. – The taxon is widely distributed in the northern hemisphere (Zhurbenko 2012) and is here first reported for Australia, Falkland Islands, Japan and Papua New Guinea. In the southern hemisphere the species, without indication of variety, was formerly reported only from Ecuador (Etayo 2017).

*Specimens examined.* – **AUSTRALIA. AUSTRALIAN CAPITAL TERRITORY:** Brindabella Range, 38 km SW of Canberra, Mount Franklin, 35°29'S 148°47'E, elev. 1640 m, 15.xii.1998, *H. Streimann 63462a* (H), *H. Streimann 63462b* (H). **NEW SOUTH WALES:** Ridge between Mountains Kelly and Scabby, 31 km ENE of Adaminaby, 35°43'S 148°52'E, elev. 1640 m, 22.i.1992, *H. Streimann 49174* (H). **FALKLAND ISLANDS.** East Falklands, Darwin Settlement, Boca House on Brenton Lock, 11.i.1968, *H.A. Imshaug 40278* & *R.C. Harris* (TNS). **JAPAN. HONSHU:** Rikuchu Province (Iwate Prefecture), summit of Mount Hayachine, 39°33'N 141°29'E, elev. 1900 m, 27.vii.1967, *S. Kurokawa 67149* (TNS), 3.ix.1959, *S. Kurokawa 59360* (TNS). **NORWAY. SÖR-TRÖNDELAG:** Kongsvoll, vii.1933, *E.P. Vrang s.n.[b]* (H). **PAPUA NEW GUINEA.** Morobe Province, Mount Sarawaket, 4 km SE of Lake Gwam, 6°21'S 147°09'E, elev. 3300 m, 5.vii.1981, *T. Koponen 31788* (H). **WESTERN HIGHLAND DISTRICT:** between Pindaunde Lakes and summit of Mount Wilhelm, elev. 4200 m, 31.xii.1973, *H. Kashiwadani 11009* (TNS), *H. Kashiwadani 11154b* (TNS), *H. Kashiwadani 11159* (TNS), elev. 4400 m, 31.xii.1973, *H. Kashiwadani 11242* (TNS). **CENTRAL DISTRICT:** Mount Albert Edward, elev. 3600 m, 25.x.1975, *S. Kurokawa 9400* (TNS). **U.S.A. ALASKA:** Juneau Icefield, summit of mountain above Taku Glacier, 58°42'N 134°13'W, elev. 1460 m, 19.vii.1962, *H.A. Imshaug 28916b* (TNS). **COLORADO:** Grand Co., Berthoud Pass, head of Current Creek, Continental Divide and cirque basin, elev. 3470–3810 m, 6.vii.1960, *S. Shushan et al. 24777a* (H).

***Sphaeropezia santessonii* (Zhurb., Etayo & Diederich) Baloch & Wedin**

NOTE. – The species was formerly known from Canada, Iceland, Peru and Russia (Diederich et al. 2002, Zhurbenko 2012) and is here newly reported for Japan.

*Specimens examined.* – **ICELAND. CENTRAL HIGHLANDS:** S of Hofsjökull Glacier, Jökulkriki, elev. 620 m, 22.vii.1972, *H. Kristinsson 24811* (H); Jokuldalur Valley, near Tungnafellsjökull Glacier, elev. 1050 m, 8.viii.1967, *H. Kristinsson 23093a* (TNS). **JAPAN. HONSHU:** Shinano Province (Nagano Prefecture), Yatsugatake Mountains, 27.vii.1959, *M. Togashi & S. Kurokawa s.n.[a]* (TNS). **PERU. JUNIN REGION:** Jauja Province, 30 km (road distance) NNW of Jauja, 11°35'S 75°35'W, elev. 4100 m, 10.ii.1981, *R. Santesson et al. s.n.* (H).

***Stigmidium frigidum* (Sacc.) Alstrup & D.Hawksw.**

NOTE. – The species is widely distributed in both hemispheres (Alstrup & Hawksworth 1990, Etayo 2010, Hafellner 1994, Hafellner & Mayrhofer 2007, Kukwa & Flakus 2009, Santesson et al. 2004, Zhurbenko 2012) and is here newly reported for Japan.

*Specimens examined.* – **JAPAN. HONSHU:** Shinano Province (Nagano Prefecture), Yatsugatake Mountains, Mount Yoko-dake, Chino-shi, elev. 2700 m, 5.viii.1990, *H. Shibuichi 8782b* (TNS); Kobushi-dake Mountains, Mount Sanpo, Minami-Saku-gun, elev. 2450 m, 12.vii.1979, *H. Shibuichi 5862* (TNS).

***Taeniolella* sp. (putative asexual morph of *Sphaerellothecium thamnoliae*)**

NOTES. – The examined material matches the fungus described by Heuchert et al. (2018: Figs 73–74) based on collections from Norway and Russia. This is the first report of this putative asexual morph from Japan.

*Specimens examined.* – **JAPAN. HONSHU:** Shinano Province (Nagano Prefecture), Jogo-sawa, Yatsugatake Mountains, Chino-shi, 35°59'N 138°22'E, elev. 2400 m, 27.viii.1997, *H. Shibuichi 9804* (TNS). Musashi Province, Mount Sanpoh, Chichibu-gun, 35°55'N 138°44'E, elev. 2480 m, 2.viii.1974, *H. Shibuichi 4967* (TNS). Kai Province (Yamanashi Prefecture), Tengu-one Ridge, Mount Kokushi-dake, Higashi-Yamanashi-gun, 35°52'N 138°40'E, elev. 2500 m, 26.vii.1972, *H. Shibuichi 4686* (TNS); Mount Kita-dake, near Kotaro-goya, 35°41'N 138°14'E, elev. 3000 m, 4.viii.1967, *M. Togashi s.n.* (TNS).

***Thamnogalla crombiei* (Mudd) D.Hawksw.**

NOTE. – This species is widely distributed in both hemispheres (Etayo 2010, Etayo & Sancho 2008, Flakus & Kukwa 2012, Hafellner & Mayrhofer 2007, Hawksworth 1980, Kukwa & Flakus 2009, Santesson et al. 2004, Zhurbenko 2012, Zhurbenko & Daniëls 2003) and is here newly reported for Australia, Bhutan, India, Japan, Nepal, North Korea and Papua New Guinea.

*Specimens examined.* – **AUSTRALIA. VICTORIA:** Cobberas Range between peaks 1 & 2, Mount Ida, i.1970, *H.A. Morrison s.n.* (H); Bogong High Plains, Mount Nelson, elev. 1880 m, 20.i.1966, *R. Filson 8128* (TNS). **BHUTAN.** Lingshi (4100)–Yale La (4800)–Shodu (4000), 23.v.1967, *H. Hara et al. 19803* (TNS); Laum Thang (3900)–Singke La (4950)–Chawa Gassar (4000), 19.v.1967, *H. Hara et al.*



20080 (TNS). **CANADA. ALBERTA:** SW of Calgary, 0.5 mi S of Savanna Creek, 3.25 mi ESE of the summit of Mount Pasque, elev. 2130 m, 28.ix.1963, *C.D. Bird 9085* (H). **ONTARIO:** Kenora District, Fort Severn, 56°00'N 87°28'W, 2.viii.1958, *T. Ahti s.n.[a]* (H). **INDIA. SIKKIM:** Jongri Peak, elev. 4000 m, 21.v.1960, *M. Togashi et al. s.n.* (TNS). **JAPAN. HOKKAIDO:** Ishikari Province, Daisetsu Mountains, Mount Haku-un, 43°39'N 142°54'E, elev. 2100 m, 4.viii.1980, *H. Kashiwadani 16253 & Y. Endo* (TNS); Daisetsu Mountains, southern slope of Mount Akadake, 43°40'N 142°55'E, elev. 2000 m, 18.ix.1971, *S. Kurokawa 71137* (TNS); Daisetsu Mountains, Mount Tomuraushi, 43°31'N 142°51'E, elev. 2000 m, 18.vii.1969, *M. Togashi s.n.[b]* (TNS); Daisetsu Mountains, 43°N 142°E, 26.vii.1937, *Y. Asahina s.n.* (TNS). Etchu Province (Toyama Prefecture), Mount Yakushi, 36°28'N 137°33'E, 25.vii.1936, *Y. Asahina s.n.* (TNS); Mount Kaminotake, 36°25'N 137°31'E, 24.vii.1936, *Y. Asahina s.n.* (TNS). Iwashiro Province (Fukushima Prefecture), Mount Iide, Yama-gun, 37°51'N 139°42'E, elev. 2000 m, 26.viii.1975, *H. Shibuichi 5127b* (TNS), *H. Shibuichi 5128* (TNS). Shinano Province (Nagano Prefecture), Mount Yatsugatake, Kita-Azumi-gun, 35°58'N 138°22'E, 11.viii.1952, *S. Kurokawa 520431* (TNS). **NEPAL.** [without additional locality data], elev. 3900 m, 28.v.1953, *D.D. Awasti 2334* (TNS). **NORTH KOREA.** Hamkyonnam-do Province, Mount Paekdu, 41°60'N 128°05'E, 26–27.vii.1933, *T. Ueda s.n.* (TNS). **NORWAY. TRØNDELAG:** Oppdal Municipality, Kongsvoll, vii.1933, *E.P. Vrang s.n.[a]* (H). **PAPUA NEW GUINEA.** Western Highlands Province, between Pindaunde Lakes and summit of Mount Wilhelm, elev. 4150 m, 31.xii.1973, *H. Kashiwadani 11159* (TNS). **PERU. JUNIN REGION:** Tarma Province, between La Oroya and Junin, S of the turn towards San Pedro, 11°17'S 75°56'W, elev. 4200 m, 16.ii.1981, *R. Santesson s.n. & R. Moberg* (H). **CUZCO REGION:** Paucartambo, road Oropesa–Paucartambo, between Huancarane and Sayllapata, 13°25'S 71°45'W, elev. 3850 m, 26.iii.1981, *R. Santesson et al. s.n.* (H). **SWEDEN. GOTLAND:** Visby, 28.vi.1875, *S.O. Lindberg s.n.* (H). **ÖLAND:** Stora Alvaret, 4 km ESE of the Resmo church, 2.vii.1957, *R. Santesson 11924* (H), 8.viii.1911, *R. Sterner s.n.* (H). **U.S.A. ALASKA:** Bering Strait District, Ukinyik Creek Drainage, 68°43'–47'N 165°45'–166°12'E, elev. 600 m, 4.viii.1960, *L. Viereck & A. Bucknell s.n.[b]* (H). **COLORADO:** Grand Co., Berthoud Pass, head of Current Creek, Continental Divide and cirque basin, elev. 3470–3810 m, 6.vii.1960, *S. Shushan 24777a* (H). Clear Creek Co., Mount Evans, elev. 4200 m, 30.vii.1961, *A. Henssen 13095j* (H). **WYOMING:** Albany Co., summit of Medicine Bow Peak, elev. 3660 m, 4.vii.1956, *H.A. Imshaug 18901* (H).

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# A Provisional Checklist of the Lichens of Belarus

ANDREI TSURYKAU<sup>1</sup>

**ABSTRACT.** – A total of 606 species and five subspecific taxa of lichens and allied fungi are documented from Belarus based on combined historical (pre-1980) and modern (post-1980) records. Of these, 50 (8.3%) are represented by only historical reports, 235 (38.8%) are represented by only modern vouchers, and 310 (51.2%) are represented by both historical and modern records. Eleven species are known only from generalized published reports that lacked specific location data. Eighty-eight species are excluded as erroneous reports, or considered as doubtful records.

**KEYWORDS.** – Biodiversity, distribution, lichenized fungi, historical baseline.

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## INTRODUCTION

Published accounts of the lichens of Belarus date to the end of the 18<sup>th</sup> century (Gilibert 1781). In the first phase of lichenological discovery in the country (1780–1900) lichens did not attract special attention and were reported among the general lists of vascular plants and fungi. However, 49 species were reported by the French botanist J.E. Gilibert, the Russian ethnographer of Belarusian origin N. Downar (Dovnar-Zapol'skiy) and Polish botanists K. Filipowicz and F. Błoński (Błoński 1888, 1889; Downar 1861; Filipowicz 1881; Gilibert 1781, 1792).

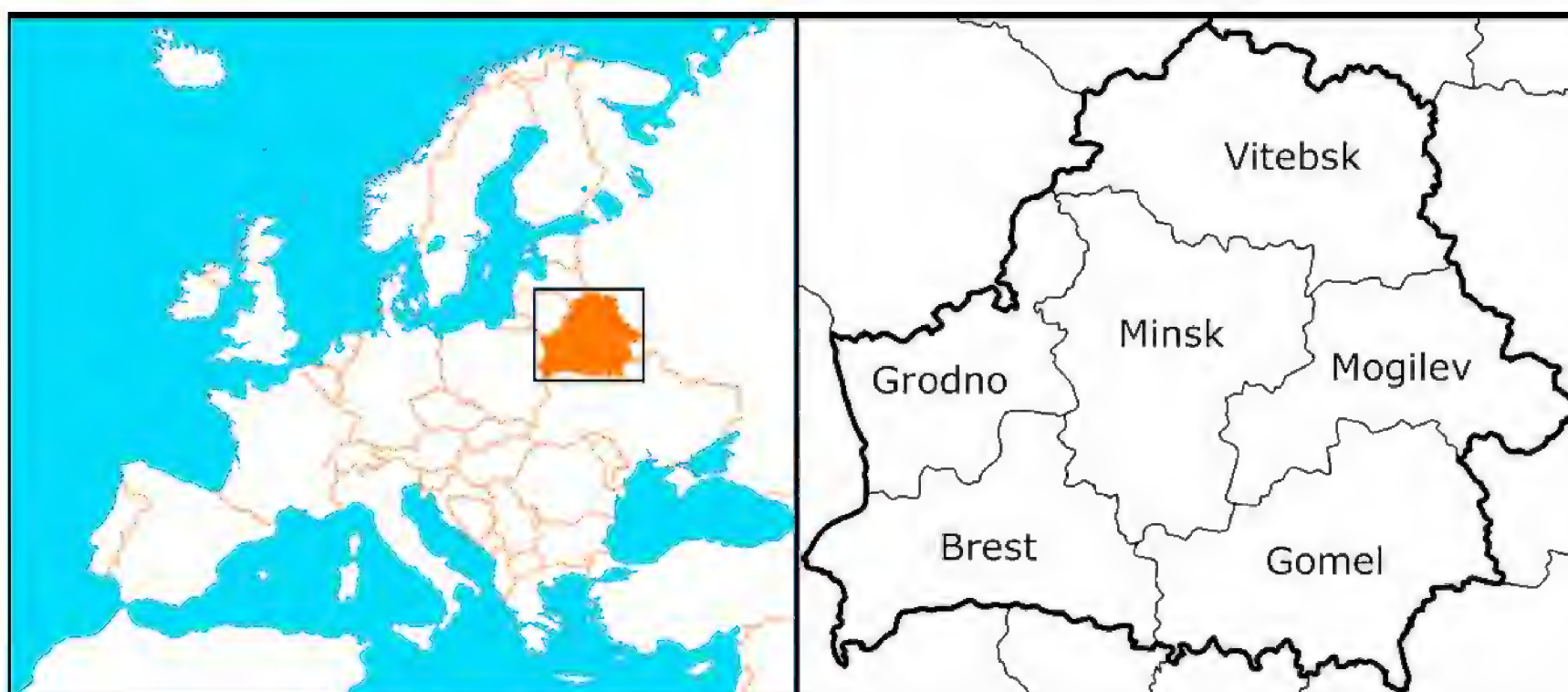
In the early 20<sup>th</sup> century (1900–1925), there was a second phase of lichenological discovery in Belarus. During that time, Belarusian pioneer lichenologist V.P. Savicz and his wife L.I. Ljubitzkaja (later Savicz-Ljubitzkaja) reported 91 species new to the country (Ljubitzkaja 1914; Savicz 1909, 1910, 1911, 1925; Savicz & Savicz 1924; Wyssotzky et al. 1925). Their collections are housed in LE. Other lichenologists visited the territory that constitutes modern Belarus between 1910 and 1925. These included G.K. Kreyer, E. Bachmann, F. Bachmann, F. von Tessenorff, and A.N. Oksner who published several contributions (Bachmann & Bachmann 1920; Kreyer 1913, 1914; Oksner 1924, 1925; Tessenorff 1922). An important study of this second period that of Bachmann and Bachmann (1920), who made collections on the battlefield during the World War I. In total, 260 lichens new to Belarus were reported over this 25-year period, increasing the known total to 309 species at that time.

A third phase, corresponding to the period 1926–2005, included the publication of many studies focused on forest and urban lichen ecology as well as environmental lichen monitoring. This work was carried out by more than a dozen lichenologists in Belarus (e.g. Boiko et al. 1981; Busko et al. 1995; Ges 1960; Golubkov 1987, 1992, 1993; Golubkov & Kobzar 2005; Golubkov & Vynaev 1981; Gorbach 1955, 1957, 1965d, 1970; Gorbach & Getko 1978; Insarov & Pchelkin 1982; Kiselev et al. 1983, 1986; Kobzar 1997; Kravchuk 2000, 2001; Kravchuk & Kakareka 1995, 1998; Krawiec 1938; Makarevich 1960; Tomin 1937, 1939, 1956; Tsetterman 1948, 1973b, 1981), including M.P. Tomin, N.V. Gorbach, N.N. Kobzar and V.V. Golubkov. Golubkov in particular, drew attention to conservation biology by studying the lichens of protected areas and by including threatened species in the second and third editions of the Red Data Books of Belarus (Darafeeu 1993; Golubkov 2002, 2014d; Golubkov & Kobzar 2005).

The current phase of lichenology in Belarus began in 2006, when the present author, together with P. Bely and A. Yatsyna began their careers in lichenology. This phase has been marked by chemical analysis such as thin layer chromatography, as well as collaboration with foreign mycologists and lichenologists. As a result, approximately 150 lichens new to the country have been reported during last decade, mainly by these workers and V.V. Golubkov (e.g. Bely 2011a; Golubkov & Kukwa 2006;

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**Figure 1.** The study area (Belarus) within the context of Europe (left) and a map of the administrative divisions of the country (right).

Tsurykau & Golubkov 2015; Tsurykau et al. 2014a, 2016a, 2017c; Yatsyna 2011e, 2012d, 2013f, 2014a, 2015d, Yatsyna & Motiejūnaite 2015). Furthermore, special attention was also focused on lichenicolous fungi, whose known biodiversity in Belarus has increased rapidly from 21 species in 2011 to 66 species in 2017 (Tsurykau 2017a).

As is the case with many regions worldwide, the Belarusian lichen biota remains little investigated despite a long history of research. Two lists devoted to the lichens of Belarus were published recently, when Yurchenko (2011) and Yatsyna and Merzhvinsky (2012) independently reported 549 species each. However, these contributions listed different species and were mainly summaries of Latin names that had been reported from the country in earlier publications. Furthermore, those authors did not critically reexamine the supporting vouchers and published descriptions associated with the reports, rather applying nomenclatural updates using Index Fungorum. Given the major changes to lichen taxonomy and species delimitation that have occurred since many historical reports were published, such nomenclatural updates led to several erroneous reports (see doubtful and excluded species). Presently there is no comprehensive checklist of lichens from Belarus that both incorporates all the available published data and attempts to summarize the modern diversity, distribution and substrate preferences of the taxa in the region. The present contribution aims to fill this gap.

## MATERIALS AND METHODS

*The Study Area.* – Belarus is an Eastern European country (207600 km<sup>2</sup>), located within 51–56°N and 23–33°E. The country borders Latvia, Lithuania, Poland, Russia and Ukraine (Figure 1). The main part of the area comprises flat lowland terrain. The central part has rugged relief (Minsk Upland) with the highest point reaching 345 meters (Dementiev et al. 1977). The climate of Belarus is moderately continental. Average temperatures in July vary from +17°C in the north to +18°C in the south, in January from –4.5°C in south-western part to –8°C in the northeast. The annual mean precipitation is 600–700 mm (Loginov 1996).

As has been summarized by Yurkevich et al. (1979) and Zeliankevich et al. (2016), natural vegetation covers more than 64% of the total land area and is represented by forests (39.5%), meadows (14.6%), bogs (7.1%) and shrubs (3%). Forest stands are mainly dominated by *Pinus sylvestris* (50.3% of the forested area; Figure 2) together with several other tree species such as *Betula pendula* (23.2%; Figure 3), *Picea abies* (9.2%; Figure 4), *Alnus glutinosa* (8.5%; Figure 5), *Quercus robur* (3.4%; Figure 5) and *Populus tremula* (2.1%). Other tree species dominate in 3.3% of forests in Belarus.

The territory of Belarus straddles the border of two major physiographic regions, namely Eurasian coniferous (taiga) and European broadleaved forests. Therefore, the forests are heterogenous in the country. Southern Belarus is outside the natural range of *Picea abies* and dominated by *Pinus sylvestris* and *Quercus robur*. Northern Belarus is covered by taiga forests (Yurkevich et al. 1979).





**Figure 2.** Middle aged Scots pine forest, the main type of woodland in Belarus (top) and *Cladonia* dominated sandy soil in pine forest in southeastern Belarus (bottom).





**Figure 3.** Silver birch forest, the secondmost dominant forest type in Belarus (top) and mixed broadleaved-coniferous forest, a common vegetation type in Belarus (bottom).





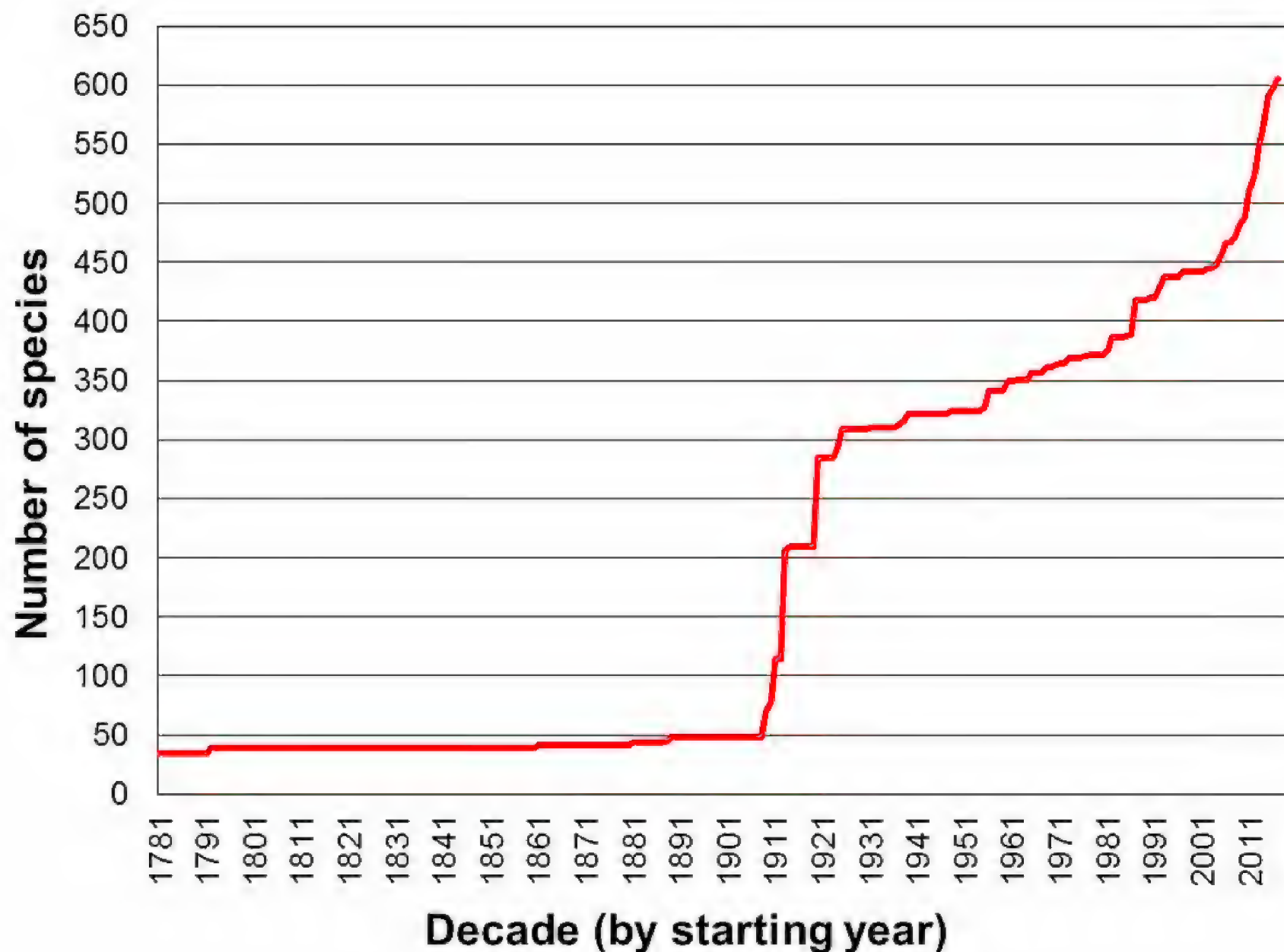
**Figure 4.** Norway spruce forest, an example of an important vegetation type in Belarus.





**Figure 5.** Black alder woodland in Belowiezha National Park (top) and Pedunculate oak stand in southern Belarus (bottom).





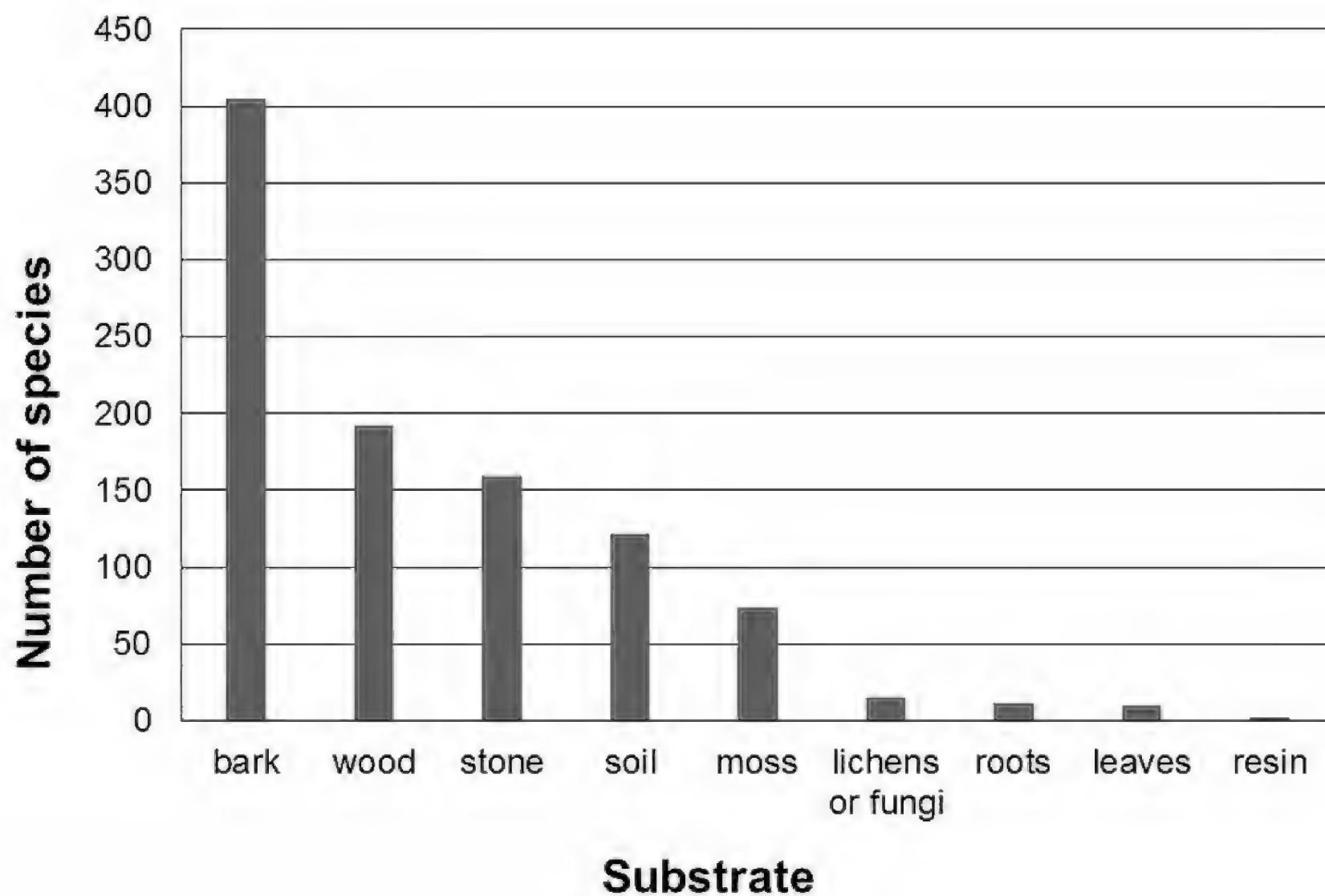
**Figure 6.** Accumulation of lichen species known from Belarus since the initiation of lichenological studies in the country (species count based on reports that were updated to follow modern taxon delimitations).

There are several kinds of protected areas: 2 nature reserves, 4 national parks, 373 wildlife sanctuaries of state (98) and local (275) significance, and 887 monuments of nature of state (319) and local significance (568). In total, protected areas encompass 8.8% of the territory of Belarus (Medvedeva 2016).

*Compilation of the Checklist.* – For the checklist, all geographically relevant publications were analysed. Only original reports were added to the checklist, and therefore every lichen record in each paper was critically examined by searching the references to determine whether it was an original report or a citation of previously published data. The latter were excluded from the checklist because they repeat information that had already been published earlier. In a small number of cases where questions arose during the process, the authors were personally contacted. To clarify the status of some doubtful records, curators at H and LE were contacted to check the availability and/or identity of supporting vouchers.

Ecology and distributional data for two lichen species (*Arctoparmelia centrifuga* and *Hazslinszkyia gibberulosa*) were not provided in the original reports, but are included here based on information associated with the vouchers at GSU. In several cases, while the original published report did not provide specific substrate or geographical provenance data, these data were taken from subsequent publications that elaborated on the original reports. Specifically, Golubkov and Shukanov (1983) and Golubkov (1992) supplemented Golubkov & Vynaev (1981), Golubkov (1993, 2011) supplemented Golubkov (1992), Yurchenko (2011) supplemented Golubkov (1996) and Golubkov and Kobzar (2005), Tsurykau and Khranchankova (2011b) supplemented Tsurykau and Khranchankova (2008), and Gapienko et al. (2014) supplemented Yatsyna (2011e). Since the substrate preferences cited by Gorbach (1973b) can refer to other countries (e.g. Oksner 1956, 1968) they were not included in the present list.

Historical reports that included descriptions were critically examined to confirm that the reports likely corresponded to a given modern species concept (i.e., in such cases the citation of a report in the checklist implies that the report was likely correct and its inclusion is not exclusively based on a



**Figure 7.** Total number of lichen species known from major substrate classes in Belarus.

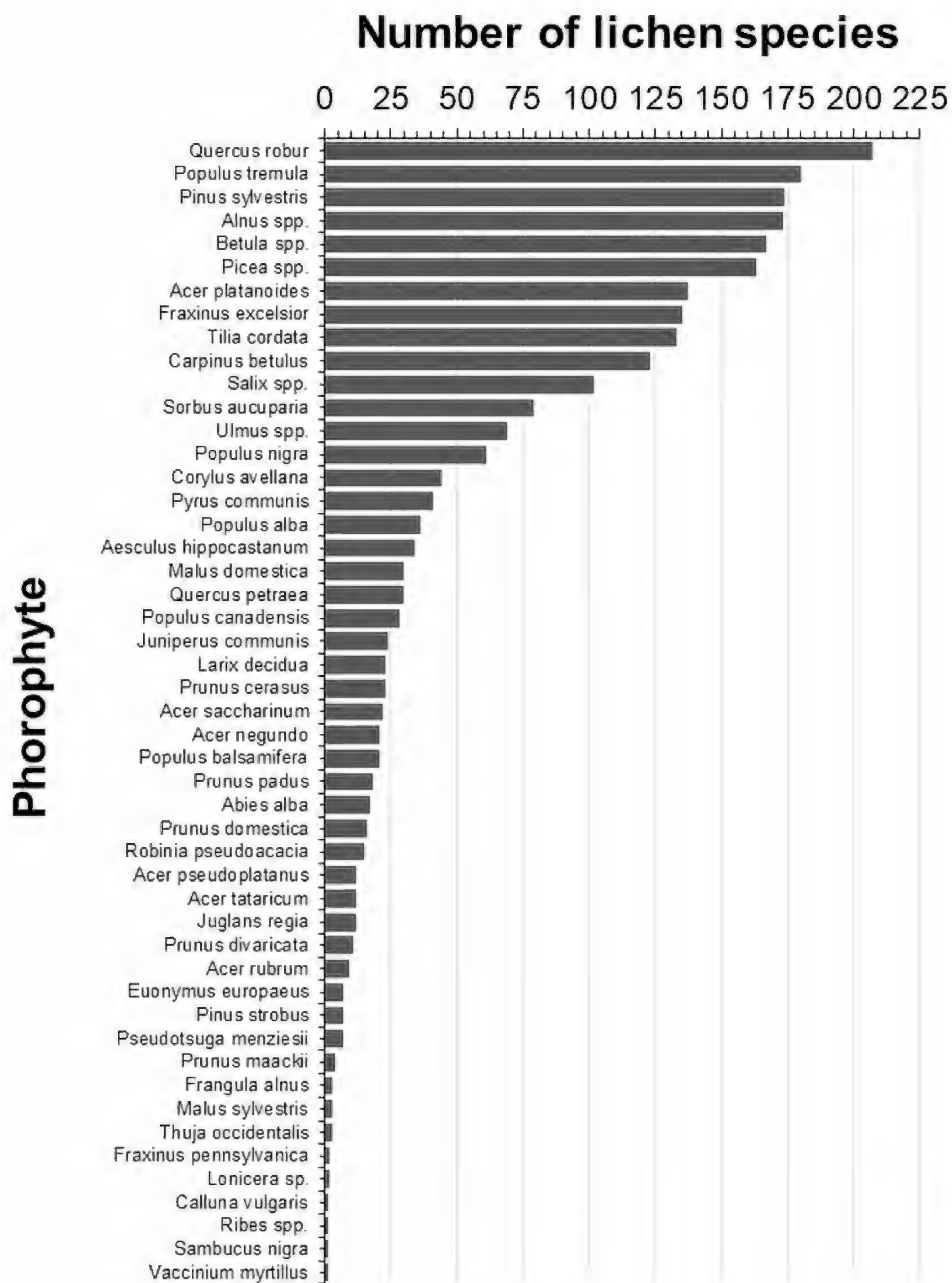
nomenclatural update of the original name). All doubtful reports are discussed in the list, and the majority are explicitly excluded pending further study.

## RESULTS AND DISCUSSION

The list of Belarusian lichens presented here includes 606 species and five subspecific taxa. Eighty-eight species are excluded as erroneous reports or treated as doubtful records. Of the species accepted as occurring in the region, 235 (38.8%) are represented by only modern (post-1980) vouchers (Figure 6), 50 (8.3%) species are represented by only historical (pre-1980) reports, and 28 (4.6%) of the latter were reported prior to, or at the beginning, of the 20th century. In other words, there are 28 taxa that appear not to have been documented from Belarus in nearly a century or more (Appendix I). Efforts to relocate extant populations of lichens known only from historical reports should prioritize these species. There are three additional species that were reported in the 1930's: *Collema nigrescens* (Krawiec 1938), *Nephromopsis ciliaris* (Tomin 1937) and *Usnea glabrata* (Yurchenko 2011). The last was reported based on herbarium specimen collected in 1939. Most species reported based on historical collections that have not been relocated in modern times are considered regionally extinct (RE). However, some other species that were formerly considered RE have been relocated in Belarus recently. These are *Heterodermia speciosa*, *Lecidea turgidula*, *Leptogium saturninum*, *Leptorhaphis atomaria*, *Mycomicrothelia melanospora*, *Ochrolechia microstictoides*, *Rinodina oxydata* and *Rinodina teichophila* (Bely & Golubkov 2009b, Yatsyna 2011a, 2011e, 2013a, 2015d, 2016c, 2017, Tsurykau 2017c). Thus, an absence of known modern occurrences does not *a priori* indicate that a given species is regionally extinct.

Of the species reported from Belarus, there are 11 that were reported from the region generally and without the citation of collection data for the supporting vouchers. These species are: *Diplotomma epipolium*, *Peltigera leucophlebia*, *Physcia clementei*, *Physconia muscigena*, *Polyscaula phlogina*, *Porpidia cinereoatra*, *Pyrenula coryli*, *Rinodina gennarii*, *Thelocarpon impressellum*, *Thrombium epigaeum*, *Variospora aurantia* (Golubkov & Yesis 1997b, Golubkov & Kobzar 2005, Kobzar 2006, Kondratyuk et al. 2004, Yurchenko 2011, Yatsyna & Merzhvinsky 2012). In addition to the above, there are several species that were published without specific location data. While these are included in the





**Figure 8.** Total number of lichen species reported from each corticolous lichen substrate in Belarus.

checklist, further study is needed to confirm their occurrence and locate supporting vouchers. These include: *Arthonia incarnata*, *Bacidia incompta*, *Physconia muscigena*, *Polycauliona phlogina* and *Nephromopsis ciliaris* (Kondratyuk et al. 2004; Oksner 1968; Tomin 1937, 1956; Yatsyna & Merzhvinsky 2012). Until now, the occurrence of *Arctoparmelia centrifuga* has been unknown as no data were provided by Gorbach (1965d). The collection locality and substrate are provided here based on the specimen stored in GSU.

Approximately one-third of the species (169, 27.9%) reported from Belarus occur in all of the major political subdivisions of the country. Such relatively ubiquitous lichens include *Evernia prunastri*, *Hypogymnia physodes*, *Parmelia sulcata* and *Xanthoria parietina*. Interestingly, however, some of these also represent species treated as rare in the latest edition of the Red Data Book (Yatsyna 2015), namely *Cetrelia olivetorum*, *Lobaria pulmonaria*, *Menegazzia terebrata*, *Montanelia soledata* and *Usnea florida*. At least one additional widespread species, *Cetrelia monachorum*, has been recommended for protection by Bely et al. (2014). In contrast to the widespread species, approximately one-fourth of the species (149, 24.6%) have only been documented from a single region of the country. This includes species that have likely been extirpated and are known only from historical reports (e.g. *Nephroma arcticum*, *N. bellum*, *N. parile* and *N. resupinatum*). It also includes relatively recently described species that are likely more widespread, but have not been the subject of targeted search efforts in the field and herbarium (e.g. *Biatorea efflorescens*, *Catillaria croatica*, *Fuscidea arboricola*, *F. pusilla* and *Lecanora compallens*).

In terms of substrates, most species (406, 66.8%; Figure 7) are corticolous, while only approximately one-fourth (160, 26.2%) are saxicolous. Among the substrates for corticolous lichens, the richest lichen diversity in Belarus is found on *Quercus robur* (207 species), *Populus tremula* (180), *Pinus sylvestris* (174), *Alnus* spp. (173), *Betula* spp. (167) and *Picea* spp. (163) (Figure 8).

## THE CHECKLIST

The checklist presented below is based on a compilation of published literature from which all records derived from the territory that is now Belarus published between 1781 and 2017 were indexed. These publications are individually cited throughout the list under the currently accepted name for each taxon. It should be noted that the publications cited under each entry are restricted to those that presented new records. In contrast, publications that referenced earlier reports are not included in the species entries. Each section of the checklist is arranged alphabetically by genus and species, and the checklist itself is divided into three sections: **i)** accepted taxa, **ii)** excluded taxa and taxa whose occurrence in the region is questionable, and **iii)** indexed synonyms that link earlier published reports to currently accepted names. Nomenclature follows Nordin et al. (2011) unless otherwise noted.

Allied fungi related to lichens or to lichenicolous fungi are denoted by an addition sign (+), and species of varying and/or uncertain biological status are denoted by a pound sign (#). Lichenicolous fungi are, as a general rule, not included here as an annotated checklist has already been published separately (Tsuryskau 2017a). However, the genus *Chaenothecopsis* which includes some lichenicolous species, is included in the present work. Any lichenicolous fungi included in the present list as denoted by an asterisk (\*).

*Geographic Abbreviations.* – Within the entry for each taxon, published reports are organized by administrative regions and arranged alphabetically. Administrative regions are abbreviated as follows: **BR** = Brest, **GO** = Gomel, **GR** = Grodno, **MI** = Minsk, **MO** = Mogilev, **VI** = Vitebsk (see Figure 1).

*Ecological and Substrate Abbreviations.* – Within the entry for each taxon, the range of phorophytes reported for each species is listed following the compiled published reports. The substrates are abbreviated as follows: **cal** = concrete and other anthropogenic calcareous substrata, **cor** = corticolous, **fol** = foliicolous (on needles), **lig** = lignicolous, **res** = resinicolous, **roo** = roots of windthrows, **sil** = siliceous stones, **met** = metal, **mus** = muscicolous (over soil, bark, stone), **ter** = terricolous (including plant debris).



In addition to the aforementioned substrate classes, the corticolous substrates are further subdivided as follows:

<b>Abi</b> = <i>Abies alba</i>	<b>Jug</b> = <i>Juglans regia</i>	<b>Pot</b> = <i>Populus tremula</i>
<b>Acd</b> = <i>Acer pseudoplatanus</i>	<b>Jun</b> = <i>Juniperus communis</i>	<b>Ppa</b> = <i>Prunus padus</i>
<b>Acn</b> = <i>Acer negundo</i>	<b>Lar</b> = <i>Larix decidua</i>	<b>Pse</b> = <i>Pseudotsuga menziesii</i>
<b>Acp</b> = <i>Acer platanoides</i>	<b>Lon</b> = <i>Lonicera</i> sp.	<b>Pyr</b> = <i>Pyrus communis</i>
<b>Acr</b> = <i>Acer rubrum</i>	<b>Mal</b> = <i>Malus domestica</i>	<b>Qup</b> = <i>Quercus petraea</i>
<b>Acs</b> = <i>Acer saccharinum</i>	<b>Mas</b> = <i>Malus sylvestris</i>	<b>Qur</b> = <i>Quercus robur</i>
<b>Act</b> = <i>Acer tataricum</i>	<b>Pce</b> = <i>Prunus cerasus</i>	<b>Rib</b> = <i>Ribes</i> spp.
<b>Ahi</b> = <i>Aesculus hippocastanum</i>	<b>Pdi</b> = <i>Prunus divaricata</i>	<b>Rob</b> = <i>Robinia pseudoacacia</i>
<b>Aln</b> = <i>Alnus</i> spp.	<b>Pdo</b> = <i>Prunus domestica</i>	<b>Sal</b> = <i>Salix</i> spp.
<b>Bet</b> = <i>Betula</i> spp.	<b>Pma</b> = <i>Prunus maackii</i>	<b>Sam</b> = <i>Sambucus nigra</i>
<b>Car</b> = <i>Carpinus betulus</i>	<b>Pic</b> = <i>Picea</i> spp.	<b>Sor</b> = <i>Sorbus aucuparia</i>
<b>Cav</b> = <i>Calluna vulgaris</i>	<b>Pin</b> = <i>Pinus sylvestris</i>	<b>Thu</b> = <i>Thuja occidentalis</i>
<b>Coa</b> = <i>Corylus avellana</i>	<b>Pis</b> = <i>Pinus strobus</i>	<b>Til</b> = <i>Tilia cordata</i>
<b>Euo</b> = <i>Euonymus europaeus</i>	<b>Poa</b> = <i>Populus alba</i>	<b>Ulm</b> = <i>Ulmus</i> spp.
<b>Fra</b> = <i>Frangula alnus</i>	<b>Pob</b> = <i>Populus balsamifera</i>	<b>Vac</b> = <i>Vaccinium myrtillus</i>
<b>Fre</b> = <i>Fraxinus excelsior</i>	<b>Poc</b> = <i>Populus canadensis</i>	
<b>Frp</b> = <i>Fraxinus pennsylvanica</i>	<b>Pon</b> = <i>Populus nigra</i>	

1. **Absconditella lignicola** Vězda & Pišút – BR (Bely 2012a), MI (Yatsyna 2012d), VI (Yatsyna 2013f, 2017): cor, lig Aln, Pin.
2. **Acarospora fuscata** (Schröd.) Arnold – GO (Savicz 1911, Golubkov & Vynaev 1981, Golubkov 2011), GR (Bachmann & Bachmann 1920, Yatsyna 2010g, 2016c), MI (Golubkov & Vynaev 1981, Golubkov 1997, Chernyshov 2003, Yatsyna 2005, 2010a, 2012c, 2013b, 2013c, 2014a, Yurchenko 2011, Yatsyna & Yurchenko 2013), MO (Yatsyna 2009b), VI (Kreyer 1913, Kobzar 1983, Golubkov 1992, 1997, Golubkov & Kobzar 2007, Yatsyna 2010c), no exact locality (Golubkov 1987): sil.
3. **Acarospora moenium** (Vain.) Räsänen – GO (Bely & Golubkov 2008, Golubkov 2011, Tsurykau & Khramchankova 2011a), GR (Bely & Golubkov 2008), VI (Bely & Golubkov 2008, Yatsyna 2013f): cal, sil.
4. **Acarospora oligospora** (Nyl.) Arnold – MI (Golubkov & Yesis 1997b, Chernyshov 2003), VI (Bachmann & Bachmann 1920): sil.
5. **Acarospora veronensis** A. Massal. – GO (Golubkov & Vynaev 1981), GR (Bachmann & Bachmann 1920), MI (Golubkov & Vynaev 1981), VI (Golubkov 1992, Golubkov & Kobzar 2007): sil.
6. **Acrocordia gemmata** (Ach.) A. Massal. – BR (Golubkov 1987, Yatsyna 2014d), GO (Gorbach 1973b, Golubkov 1992, Tsurykau & Khramchankova 2009b), GR (Golubkov 1987, Yatsyna 2016c), MI (Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Yatsyna 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c), MO (Yatsyna 2009b), VI (Golubkov 1992, Yatsyna 2010c, 2011a), no exact locality (Gorbach 1956, 1957, Golubkov 1992): cor, lig Acp, Aln, Car, Fre, Pic, Pon, Pot, Sal, Til, Qur, Ulm.
7. **Agonimia allobata** (Stizenb.) P. James – BR (Yatsyna 2015c), MI (Yatsyna 2014a, 2015c): cor Aln, Fre.
8. **Alyxoria varia** (Pers.) Ertz & Tehler – BR (Golubkov 1987, Yatsyna 2014d), GO (Savicz 1909, Wyssotzky et al. 1925, Golubkov 1992, Golubkov et al. 2007a, Tsurykau & Khramchankova 2009b, Bely 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2016c), MI (Bachmann & Bachmann 1920, Gorbach 1955, 1961, Golubkov & Yesis 1997a, Kobzar 2006, Yatsyna 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013), MO (Kobzar 2006, Yatsyna 2012a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Yatsyna 2010c, 2017), no exact locality (Tomin 1939, Gorbach 1956, 1957, 1962, 1973b, Golubkov 1992): cor, lig Acn, Acp, Aln, Bet, Car, Fre, Jun, Pot, Sor, Qup, Qur, Til, Ulm.

9. **Amandinea punctata** (Hoffm.) Coppins & Scheid. – BR (Golubkov 1987, Yatsyna 2014d), GO (Savicz 1910, Kreyer 1913, Wyssotzky et al. 1925, Golubkov 1992, 2011, Kravchuk 2000, 2001, Golubkov et al. 2007a, Tsurykau & Khramchankova 2009a, Bely 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1987, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Yatsyna 2010g, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov & Yesis 1997a, Kravchuk 2001, Chernyshov 2003, Kobzar 2006, Yatsyna 2009d, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Kravchuk 2001, Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Kravchuk 2001, Yatsyna 2010c, 2011a, 2017), no exact locality (Gorbach 1956, 1957, Golubkov 1992): cal, cor, lig, sil Abi, Acp, Aln, Bet, Car, Coa, Fre, Lar, Pce, Pic, Pin, Pon, Pot, Ppa, Pyr, Qup, Qur, Sal, Sor, Til, Ulm.
10. **Anaptychia ciliaris** Körb. – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Lapitskaya et al. 1979, Golubkov 1992, 2011, Kravchuk 2000, Tsurykau 2005, Timoshenkova & Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, Tsurykau et al. 2009, Bely 2010a, 2011a, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Kravchuk 2001, Golubkov & Khartanovich 2004a, Yatsyna 2010g, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Kravchuk & Kakareka 1995, Kobzar 1997, Chernyshov 2003, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Kobzar 2006, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Downar 1861, Kreyer 1913, Savicz & Savicz 1924, Savicz 1925, Kravchuk 2001, Kobzar 2006, Yatsyna 2009b, 2012a, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1991, Kobzar 2006, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, Yatsyna 2009e): cor Acn, Acp, Aln, Bet, Car, Cav, Euo, Fre, Lar, Pic, Pin, Poa, Poc, Pon, Pot, Qur, Sal, Sor, Til, Ulm.
11. **Anisomeridium polypori** (Ellis & Everh.) M.E. Barr – MI (Yatsyna 2014a, 2015c): cor Aln, Fre.
12. **Arctoparmelia centrifuga** (L.) Hale – VI (Gorbach 1965d): sil. – Note: The distribution and substrate for the species are provided based on the data from GSU.
13. **Arthonia arthonioides** (Ach.) A.L. Sm. – MI (Yatsyna 2014a, 2015c), VI (Yatsyna 2017): cor Acp, Qur.
14. **Arthonia atra** (Pers.) A. Schneid. – GO (Gorbach 1973b, Golubkov & Vynaev 1981, Tsurykau & Khramchankova 2010b), GR (Golubkov 2014a), MI (Bachmann & Bachmann 1920, Golubkov & Vynaev 1981, Yatsyna & Stefanovich 2005, Yatsyna 2012b), VI (Gorbach & Mashenkova 1967), no exact locality (Tomin 1939, Gorbach 1956, 1957): cor Acp, Aln, Car, Fre, Qur.
15. **Arthonia cinereopruinosa** Schaer. – BR (Makarevich 1960), GR (Golubkov 1992), MI (Yatsyna & Yurchenko 2013, Yatsyna 2014a), MO (Yatsyna 2009b), VI (Yatsyna 2011a), no exact locality (Tomin 1956, Gorbach 1973b): cor Acp, Car, Coa, Qur.
16. **Arthonia dispersa** (Schröd.) Nyl. – GO (Tsurykau & Khramchankova 2009b, Golubkov 2011), GR (Bachmann & Bachmann 1920), MI (Kobzar 2006, Yatsyna & Yurchenko 2013, Yatsyna 2013b, 2015c), MO (Yatsyna 2012a), no exact locality (Gorbach 1973b): cor Acp, Car, Coa, Sor, Til, Pot. – Note: The report of *A. dispersa* by Golubkov & Vynaev (1981) seems to be doubtful based on the description and it is not included in the present list.
17. **Arthonia exilis** (Flörke) Anzi – GR (Makarevich 1960): cor Pic.
18. **Arthonia fuliginosa** (Schaer.) Flot. – GO (Tsurykau & Khramchankova 2009b): cor Fre.
19. **Arthonia incarnata** Th. Fr. ex Almq. – no exact locality (Tomin 1956): cor Qur.



20. **Arthonia patellulata** Nyl. – GR (Bachmann & Bachmann 1920, Makarevich 1960), no exact locality (Gorbach 1962): cor, lig Pot.
21. **Arthonia punctiformis** Ach. – BR (Golubkov 1987), GO (Savicz 1911), GR (Bachmann & Bachmann 1920, Golubkov 1987), MI (Gorbach 1955, Golubkov & Yesis 1997a), MO (Yatsyna 2009b), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov & Kobzar 2007, Yatsyna 2011a), no exact locality (Gorbach 1956, 1957): cor Aln, Bet, Car, Coa, Pot.
22. **Arthonia radiata** (Pers.) Ach. – BR (Krawiec 1938, Golubkov 1987, 2011, Yatsyna 2014d), GO (Savicz 1910, Golubkov & Vynaev 1981, Golubkov 1992), GR (Bachmann & Bachmann 1920, Golubkov 1987, Yatsyna 2010g), MI (Bachmann & Bachmann 1920, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov 1992, Kravchuk & Kakareka 1995, Yatsyna 2012b, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013), MO (Kobzar 2006, Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Yatsyna 2008, 2010c, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957): cor Acp, Aln, Bet, Car, Coa, Fre, Pot, Pyr, Qur, Sal, Sor, Til, Ulm.
23. **Arthonia spadicea** Leight. – BR (Golubkov 1987, Yatsyna 2014d), GO (Golubkov 1992), GR (Bachmann & Bachmann 1920, Makarevich 1960, Golubkov 1987, 1992, Yatsyna 2016c), MI (Golubkov 1992, Yatsyna 2014a, 2014b, 2015c), VI (Golubkov 1992, Yatsyna 2013f, 2017), no exact locality (Golubkov 1987): cor, lig Aln, Car, Coa, Fre, Pic, Pin, Pot, Qup, Qur, Til.
24. **Arthonia vinosa** Leight. – GR (Yatsyna 2016c): cor Qur.
25. **+Arthopyrenia analepta** (Ach.) A. Massal. – GO (Golubkov 2011), GR (Bachmann & Bachmann 1920): cor Aln, Qur.
26. **Arthopyrenia cerasi** (Schrad.) A. Massal. – GR (Bachmann & Bachmann 1920, Golubkov & Khartanovich 2005), VI (Yatsyna 2011a), no exact locality (Gorbach 1962): cor Coa, Pon, Qur, Til.
27. **Arthopyrenia grisea** (Schleich. ex Schaer.) Körb. – MI (Tomin 1956), VI (Yatsyna 2011a, Gapienko et al. 2014): cor Bet, Jug, Pot.
28. **Arthothelium ruanum** (A. Massal.) Körb. – BR (Golubkov 1987, Yatsyna 2014d), GO (Tsurykau & Khramchankova 2009b, Yatsyna 2012e), GR (Golubkov 1987, Yatsyna 2016c), MI (Golubkov & Vynaev 1981, Golubkov 1992, Yatsyna 2012b, 2012c, 2013b, 2014a, 2015c, 2017), VI (Golubkov 1992, Yatsyna 2010c): cor Aln, Bet, Car, Coa, Pot, Ulm.
29. **Arthrosporum populorum** A. Massal. – GO (Tsurykau & Khramchankova 2009b), GR (Kobzar 2006), MI (Yatsyna & Yurchenko 2013, Yatsyna 2014a), MO (Kreyer 1913), VI (Kreyer 1913): cor Coa, Poa, Pot, Poc, Sal.
30. **Aspicilia cinerea** (L.) Körb. – GO (Gorbach 1973b), GR (Bachmann & Bachmann 1920, Golubkov 1997, Yatsyna 2016c), MI (Oksner 1925, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, 1997, Yatsyna 2012c, Yatsyna & Yurchenko 2013), MO (Yatsyna 2009b), VI (Kreyer 1913, Golubkov 1992, 1997, Yatsyna 2010c): sil.
31. **Athallia cerinella** (Nyl.) Arup, Frödén & Söchting – BR (Yatsyna 2014d), GR (Golubkov 1987, Yatsyna 2010g, 2016c), MI (Golubkov & Yesis 1997a, Yatsyna 2010a, 2013b, 2013c, 2014a, 2014b, 2015c, Yurchenko 2011, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b), VI (Golubkov 1992, Yatsyna 2008, 2010c, 2011a, 2017, Bely & Golubkov 2009a), no exact locality (Gorbach 1962): cor, lig Mal, Pot, Til.
32. **Athallia cerinelloides** (Erichsen) Arup, Frödén & Söchting – MI (Bely 2011a): cor Pic.
33. **Athallia pyracea** (Ach.) Arup, Frödén & Söchting s. lat. – BR (Bely 2011a, Bely & Kudin 2016), GO (Savicz 1909, Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Kobzar 2006, Golubkov et al.

2007a, Tsurykau & Khranchankova 2010b, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g), MI (Bachmann & Bachmann 1920, Gorbach 1955, Golubkov & Vynaev 1981, Kravchuk & Kakareka 1995, Chernyshov 2003, 2004a, Yatsyna 2005, 2012c, 2014a, 2015c, Kobzar 2006, Yurchenko 2011, Bely 2011a, Bely & Nikolaichuk 2012), MO (Savicz & Savicz 1924, Savicz 1925), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Yatsyna 2010c, Bely 2015b), no exact locality (Gorbach 1956, Makarevich 1960): cal, cor, lig, sil Acp, Aln, Ahi, Bet, Pic, Poa, Pot, Pyr, Sal, Sor, Til, Ulm. – Note: Although the majority of reports of *A. holocarpa* (Hoffm.) Arup, Frödén & Söchting from Belarus likely refer to *A. pyracea*, the supporting specimens should be reexamined to confirm that this is the case. It is possible that some of the reports cited here actually refer to other taxa.

34. **Bacidia arceutina** (Ach.) Arnold – MI (Bely 2011a), VI (Oksner 1968, Yatsyna 2017): cor Pic, Pot.
35. **Bacidia bagliettoana** (A. Massal. & De Not.) Jatta – GO (Savicz 1911, Tsurykau & Khranchankova 2009a), GR (Bely & Golubkov 2008, Yurchenko 2011), MI (Yatsyna 2010a, Golubkov et al. 2013), VI (Bely & Golubkov 2008): mus, ter.
36. **Bacidia biatorina** (Körb.) Vain. – MI (Kobzar 2006, Yatsyna 2013b): cor Pic, Til.
37. **Bacidia circumspecta** (Nyl. ex Vain.) Malme – VI (Kreyer 1913): mus, ter.
38. **Bacidia fraxinea** Lönnr. – GO (Tsurykau 2017c): cor Qur.
39. **Bacidia friesiana** (Hepp) Körb. – MI (Bachmann & Bachmann 1920): cor Pin.
40. **Bacidia herbarum** (Stizenb.) Arnold – GO (Golubkov 2011), VI (Kreyer 1913): cor, lig, mus Pot.
41. **Bacidia igniarii** (Nyl.) Oksner – GO (Savicz 1911): cor Aln.
42. **Bacidia incompta** (Borrer ex Hook.) Anzi – no exact locality (Oksner 1968): not indicated. – Note: The report of this species by Yatsyna (2012b) seems to be erroneous because the species was not also listed in later papers (e.g. Yatsyna 2013b, 2014a).
43. **Bacidia laurocerasi** (Delise ex Duby) Zahlbr. – GO (Tsurykau & Khranchankova 2009b), MI (Gorbach 1965c, Yatsyna 2013b, Yatsyna & Yurchenko 2013), MO (Yatsyna 2009b), VI (Kreyer 1913, Yatsyna 2011e): cor Fre, Pot.
44. **Bacidia polychroa** (Th. Fr.) Körb. – GO (Kobzar 2006, Yurchenko 2011), MI (Gorbach 1965c), MO (Kobzar 2006), VI (Kreyer 1913, Yatsyna 2010c): cor Acp, Fre, Pic, Pot, Til.
45. **Bacidia rubella** (Hoffm.) A. Massal. – BR (Golubkov 1987, Kobzar 2006, Yatsyna 2014d), GO (Ljubitzkaja 1914, Wyssotzky et al. 1925, Ges 1960, Golubkov 1987, 1992, 2011), GR (Golubkov 1987, 1992, 2014a, Yatsyna 2010g, 2016c), MI (Golubkov & Vynaev 1981, Golubkov 1992, Yatsyna 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Kobzar 2006, Yatsyna 2009b, 2012a), VI (Kreyer 1913, Golubkov 1992, Kobzar 2006, Yatsyna 2010c, 2017, Bely 2011a), no exact locality (Makarevich 1960): cor Acp, Aln, Car, Fre, Pot, Qup, Qur, Sal, Til, Thu, Ulm.
46. **Bacidia subincompta** (Nyl.) Arnold – BR (Yatsyna 2014d), GO (Golubkov 2007), GR (Yatsyna 2016c), MI (Yatsyna 2013b, 2013c, 2014a, 2014b, 2015c), VI (Golubkov 1992, Yatsyna 2013f): cor Acp, Fre, Qur, Til.
47. **Bacidia vermifera** (Nyl.) Th. Fr. – GO (Savicz 1909), VI (Yurchenko 2011): cor Bet, Pot.
48. **Bacidina arnoldiana** (Körb.) V. Wirth & Vězda – BR (Yatsyna 2014d), MI (Yatsyna 2014a, 2015c), VI (Insarov & Pchelkin 1982, Bely 2011a, Yatsyna 2013f, 2017): cor Acp, Aln, Bet, Car, Fre, Pot, Qur.



49. **Bacidina assulata** (Körb.) S. Ekman – BR (Makarevich 1960): cor Fre.
50. **Bacidina chlorotricula** (Nyl.) Vězda & Poelt – MI (Yatsyna 2015c), VI (Yatsyna 2013f): cor, sil Aln.
51. **Bacidina delicata** (Leight.) V. Wirth & Vězda – MI (Yatsyna 2012d): cor Aln.
52. **Bacidina egenula** (Nyl.) Vězda – VI (Yatsyna & Motiejūnaite 2015): cor Aln.
53. **Bacidina inundata** (Fr.) Vězda – MI (Golubkov & Vynaev 1981, Chernyshov 2004a), VI (Kreyer 1913, Golubkov 1992, Yatsyna 2013f, 2017): sil.
54. **Bacidina phacodes** (Körb.) Vězda – BR (Golubkov 1987), GO (Golubkov 2011), GR (Bachmann & Bachmann 1920), MI (Kobzar 2006), MO (Bely 2011a), VI (Kreyer 1913, Yatsyna 2017), no exact locality (Yatsyna 2009e): cor, lig, roo Aln, Pic, Pot, Qur.
55. **Bacidina sulphurella** (Samp.) M. Hauck & V. Wirth – VI (Yatsyna 2013f): cor Aln.
56. **Bactrospora dryina** (Ach.) A. Massal. – BR (Yatsyna 2014d), GO (Yatsyna 2011e), GR (Yatsyna 2016c), MI (Yatsyna 2015c), MO (Yatsyna 2011e), VI (Yatsyna 2011e): cor Acp, Qur, Til.
57. **Baeomyces rufus** (Huds.) Rebent. – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2010b), GO (Golubkov & Vynaev 1981, Golubkov 1992, 2011, 2014a, Bely 2010a), GR (Yatsyna 2010b, 2010g), MI (Gorbach 1965d, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna 2010a, 2010b, 2010h, Bely 2010c), MO (Yatsyna 2009b, 2010b), VI (Kreyer 1913, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010b, 2010c, 2010d, 2011a, 2017, Bely 2015b), no exact locality (Golubkov 1992): sil, ter.
58. **Biatora areolata** Kreyer – GO (Golubkov 2011), MI (Gorbach 1955), VI (Kreyer 1913, Insarov & Pchelkin 1982, Kobzar 2006): cor Aln, Pic, Pot, Qur, Sor.
59. **Biatora beckhausii** (Körb.) Tuck. – GR (Bachmann & Bachmann 1920), MI (Chernyshov 2004a), VI (Golubkov 1992): cor Jun, Pic, Pot.
60. **Biatora globulosa** (Flörke) Fr. – BR (Golubkov 1987), GO (Golubkov & Vynaev 1981), GR (Bachmann & Bachmann 1920, Golubkov 1987, Yatsyna 2016c), MI (Tomin 1939, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov 1992, Yatsyna 2005, Golubkov et al. 2013), VI (Kreyer 1913, Gorbach & Mashenkova 1967): cor, lig Acp, Bet, Pic, Pin, Pot, Qur, Sal, Ulm. – Note: The report from the Gomel region by Golubkov (1992) may be erroneous because the species was not also included in subsequent papers (e.g. Golubkov 2011). That report is not included in the present list.
61. **Biatora efflorescens** (Hedl.) Räsänen – GO (Tsuryskau 2017a): cor Pin.
62. **Biatora epixanthoides** (Nyl.) Diederich – VI (Yatsyna 2017): cor Pot.
63. **Biatora ocelliformis** (Nyl.) Arnold – MO (Yatsyna & Motiejūnaite 2015), VI (Kreyer 1913): cor Car, Pic.
64. **Biatora vernalis** (L.) Fr. – GR (Bachmann & Bachmann 1920), MI (Golubkov & Vynaev 1981, Yatsyna 2010a), VI (Yatsyna 2008): cor Coa, Fre, Pot, Til.
65. **Biatoridium monasteriense** J. Lahm ex Körb. – MI (Yatsyna 2014a): cor Fre.
66. **Bilimbia sabuletorum** (Schreb.) Arnold – GR (Yatsyna 2016c), MI (Yatsyna 2010a, 2012b, 2013b, 2013c), VI (Kreyer 1913, Bachmann & Bachmann 1920, Yatsyna 2010c, 2010d): mus, on Peltigera canina.
67. **Blastenia crenularia** (With.) Arup, Søchting & Frödén – VI (Kreyer 1913): sil.

68. **Blastenia ferruginea** (Huds.) Th. Fr. – GO (Golubkov 2007), GR (Bachmann & Bachmann 1920, Golubkov & Khartanovich 2004b), MI (Golubkov & Vynaev 1981, Golubkov 1992): cor Pic, Sor. – Note: The report on calcareous stone by Golubkov et al. (2013) seems to be doubtful based on the substrate and so is not included in the present list. The material that served as the basis of the report should be reexamined to determine its taxonomic status.
69. **Blastenia herbidella** (Hue) Servit – MI (Kondratyuk et al. 2013): cor Til.
70. **Blennothallia crispa** (Huds.) Otálora, P.M. Jørg. & Wedin – GR (Gilibert 1781, 1792): not indicated.
71. **Brianaria sylvicola** (Flot. ex Körb.) S. Ekman & M. Svensson – MI (Chernyshov 2003), VI (Kreyer 1913): sil.
72. **Brianaria tuberculata** (Sommerf.) S. Ekman & M. Svensson – GO (Savicz 1911): sil.
73. **Bryobilimbia hypnorum** (Lib.) Fryday, Printzen & S. Ekman – GO (Danilchuk et al. 1976): cor Fre.
74. **Bryobilimbia sanguineoatra** (Wulfen) Fryday, Printzen & S. Ekman – MI (Bachmann & Bachmann 1920): ter. – Note: This species is included here based on the report by Bachmann and Bachmann (1920). Previously, this report was treated as referring to *Mycobilimbia hypnorum* (Lib.) Kalb & Hafellner by Yurchenko (2011) and Yatsyna & Merzhvinsky (2012). However Bachmann and Bachmann (1920) noted specifically that their specimen perfectly match the material identified by Arnold. Arnold's material has now been designated as a neotype for *Lichen sanguineoater* Wulfen (Fryday et al. 2014).
75. **Bryoria capillaris** (Ach.) Brodo & D. Hawksw. – BR (Gorbach 1965a, 1973b, Bely 2011a, Yatsyna 2013a), GO (Golubkov & Vynaev 1981, Golubkov 2011), GR (Kobzar 2006, Golubkov 2014a), MI (Oksner 1924, Gorbach 1965a, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Bely 2012c, Yatsyna 2013a), MO (Kobzar 2006), VI (Gorbach 1965a, 1978, Gorbach & Mashenkova 1967, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2010c, 2010f, 2013a, 2017, Bely 2011a), no exact locality (Golubkov 1992): cor Aln, Bet, Jun, Pic, Pin, Pon.
76. **Bryoria chalybeiformis** (L.) Brodo & D. Hawksw. – VI (Golubkov 2009a): sil.
77. **Bryoria furcellata** (Fr.) Brodo & D. Hawksw. – BR (Gorbach 1973b), GO (Kravchuk 2000, Golubkov 2011), VI (Gorbach 1965a, Gorbach & Mashenkova 1967, Golubkov & Kobzar 2007): cor Bet, Pin.
78. **Bryoria fuscescens** (Gyeln.) Brodo & D. Hawksw. – BR (Golubkov 1987), GO (Savicz 1910, Golubkov & Vynaev 1981, Kobzar 2006), GR (Gilibert 1781, 1792, Golubkov 1987, 2014a, Yatsyna 2013a, 2016c), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Kobzar 2006, Yurchenko 2011, Yatsyna & Yurchenko 2013, Yatsyna 2013a, 2014a, 2015c), MO (Kreyer 1913, Kobzar 2006, Yatsyna 2009b), VI (Kreyer 1913, Gorbach 1965a, Gorbach & Mashenkova 1967, Insarov & Pchelkin 1982, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2017), no exact locality (Gorbach 1956, 1957): cor Acp, Aln, Bet, Pic, Pin, Pot, Qup, Qur, Sal, Til.
79. **Bryoria implexa** (Hoffm.) Brodo & D. Hawksw. – BR (Tessendorff 1922, Krawiec 1938, Gorbach 1965a, 1973b, Yatsyna 2013a), GO (Savicz 1910, Ges 1960, Golubkov 1992), GR (Bachmann & Bachmann 1920, Kobzar 2006, Bely 2011a), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, Golubkov 1992, Yatsyna 2006a, Bely 2011a), MO (Kreyer 1913, Savicz 1925), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1965a, 1973b, Golubkov & Kobzar 2007, Yatsyna 2009a, Yurchenko 2011), no exact locality (Gorbach 1956, 1957, Golubkov & Kobzar 2005): cor, ter Bet, Car, Pic, Pin, Qur. – Note: Records of *B. mirabilis* (Motyka) Bystrek and *B. motykana* (Bystrek) Bystrek (cited as *B. motycii* Bystrek nom. inval. in the literature) are treated as *B. implexa* (Hoffm.) Brodo & D. Hawksw. based on Lisická (2005).



80. **Bryoria nadvornikiana** (Gyeln.) Brodo & D. Hawksw. – GO (Golubkov 1992, Yurchenko 2011), GR (Golubkov 1987), MI (Golubkov 1987), VI (Yatsyna 2008, 2013a, Yurchenko 2011): cor Bet, Pic, Pin, Qur.
81. **#Buellia badia** (Fr.) A. Massal. – GO (Gorbach & Osmolovskaya 1965), GR (Golubkov 1993), MI (Golubkov 1993), VI (Golubkov 1993): sil.
82. **Buellia disciformis** (Fr.) Mudd – BR (Golubkov 1987), GO (Savicz 1911, Wysotsky et al. 1925, Golubkov 1992), GR (Bachmann & Bachmann 1920), MI (Bachmann & Bachmann 1920, Gorbach 1955, Yatsyna 2012b, 2013b), MO (Yatsyna 2009b), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Insarov & Pchelkin 1982, Kobzar 2006, Yatsyna 2009a), no exact locality (Gorbach 1957, Bely 2013): cor Acp, Aln, Bet, Pic, Pin, Pot, Qur, Til.
83. **Buellia geophila** (Flörke ex Sommerf.) Lynge – MI (Gorbach 1955, Golubkov & Vynaev 1981), no exact locality (Bachmann & Bachmann 1920, Tomin 1956): cor Aln, Fre.
84. **Buellia griseovirens** (Turner & Borrer ex Sm.) Almb. – BR (Yatsyna 2013a, 2014d), GO (Bely 2011a, Tsurykau 2013a, Tsurykau & Khranchankova 2015, Tsurykau & Tsurikova 2017), GR (Yatsyna 2016c), MI (Yatsyna 2009d, 2012b, 2013b, 2015c, Bely 2011a), VI (Golubkov 1993, Bely 2011a, Yatsyna 2011e, 2013a, 2017, Gapienko et al. 2014): cor, lig Aln, Fre, Pin, Qur.
85. **Buellia schaeferi** De Not. – BR (Golubkov 1987), GO (Golubkov 2007), MI (Yatsyna 2012b, 2013b), MO (Kobzar 2006, Yatsyna 2009b), VI (Kreyer 1913, Yatsyna 2011a, 2011e): cor, lig Aln, Bet, Pin, Pot, Qur, Til.
86. **Byssoloma subdiscordans** (Nyl.) P. James – MO (Savicz & Savicz 1924): fol Pic.
87. **Caeruleum heppii** (Nägeli ex Körb.) K. Knudsen & L. Arcadia – MI (Golubkov & Vynaev 1981): not indicated.
88. **Calicium abietinum** Pers. – BR (Golubkov 1987, Yurchenko 2011), GO (Golubkov & Vynaev 1981, Golubkov 1987), GR (Golubkov 1987, 1992), MI (Bachmann & Bachmann 1920, Golubkov & Vynaev 1981, Golubkov 1987, 1992, Yatsyna 2009d, 2014a), VI (Golubkov 1987, 1991, 1992, Golubkov & Kobzar 2007, Yatsyna 2010f, Bely 2011a), no exact locality (Gorbach 1962, Golubkov & Titov 1990): cor, lig Car, Pic, Pin, Qur. – The report of this species by Kreyer (1913) is erroneous based on the small reported ascospore size ( $7.8\text{--}10.4 \times 5.2\text{--}5.8 \mu\text{m}$ ). It likely refers to *C. glaucellum* (e.g., Tibell 1999). However the material that served as the basis of the report should be reexamined to determine its true taxonomic status and so the report is not included in the present list.
89. **Calicium adpersum** Pers. – BR (Golubkov 1987), GO (Golubkov 1987, 1992), GR (Golubkov 1987), MO (Yatsyna 2009b): cor, lig Pin, Qur.
90. **Calicium glaucellum** Ach. – BR (Golubkov 1987, Yurchenko 2011), GO (Tsurykau & Khranchankova 2011a, Golubkov 2011), GR (Golubkov 1987), VI (Golubkov & Kobzar 2007, Yatsyna 2010f, 2017): cor, lig Car, Pic, Pin, Qur.
91. **Calicium lenticulare** Ach. – BR (Golubkov & Titov 1990), GO (Golubkov 1992): lig Qur.
92. **Calicium parvum** Tibell – GO (Tsurykau 2017c): cor Pin.
93. **Calicium quercinum** Pers. – GR (Yatsyna 2013d), no exact locality (Tomin 1939): cor, lig Acp.
94. **Calicium salicinum** Pers. – BR (Golubkov 1987), GO (Golubkov & Vynaev 1981, Golubkov 1987, 1992, 2011), GR (Golubkov 1987, 2014a), MI (Golubkov 1987), VI (Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2011e), no exact locality (Tomin 1956, Golubkov 1992): cor, lig Acp, Aln, Car, Pin, Qup, Qur.

95. **Calicium trabinellum** (Ach.) Ach. – BR (Yatsyna 2013a, 2014d), GO (Golubkov 1992, 2007, 2011), GR (Golubkov 1987, 1992, 2014a), MI (Bachmann & Bachmann 1920, Golubkov 1987, 1992, Yatsyna 2009d), VI (Golubkov 1987, 1991, 1992, Golubkov & Kobzar 2007, Yatsyna 2010f, 2013f), no exact locality (Gorbach 1962, Golubkov 1992): cor, lig Aln, Pin, Qur.
96. **Calicium viride** Pers. – BR (Golubkov 1987, Bely 2011a, Yatsyna 2014d), GO (Golubkov 1992, 2007, 2011), GR (Bachmann & Bachmann 1920, Golubkov 1992, 2014a, Bely 2011a, Yatsyna 2016c), MI (Golubkov & Vynaev 1981, Kobzar 2006, Yatsyna 2005, 2013b, 2013c, 2014a, 2015c, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Kobzar 2006, Yatsyna 2009b, 2011c), VI (Kreyer 1913, Golubkov 1992, Yatsyna 2010c, 2017), no exact locality (Gorbach 1973b, Golubkov 1992): cor, lig Acp, Aln, Bet, Fre, Lar, Pic, Pin, Qur, Sal, Til.
97. **Calogaya lobulata** (Flörke) Arup, Frödén & Söchting – MI (Tomin 1956, Yatsyna & Stefanovich 2005, Yatsyna 2005): cal.
98. **Calogaya pusilla** (A. Massal.) Arup, Frödén & Söchting – BR (Golubkov 1987, Yatsyna 2012f, 2014d), GO (Savicz 1909, Golubkov 1992, 2011, Golubkov et al. 2007a, Tsuryskau & Khramchankova 2007, 2009a, Sobchanka et al. 2012, Yatsyna 2012f, Tsuryskau & Tsurikova 2017), GR (Golubkov 1987, Yatsyna 2010g, 2016c, 2012f, Yurchenko 2011), MI (Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, 2004c, Yatsyna 2005, 2010a, 2012b, 2012c, 2012f, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Yatsyna 2009b, 2012f), VI (Kreyer 1913, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2012f, Yurchenko 2011), no exact locality (Gorbach 1973b, Golubkov 1987, 1992): cal, cor, sil Acp, Til.
99. **Caloplaca albolutescens** (Nyl.) H. Olivier – VI (Yatsyna 2013f): cal.
100. **Caloplaca cerina** (Ehrh. ex Hedw.) Th. Fr. – BR (Suza 1928, Golubkov 1987, Bely & Kudin 2016), GO (Savicz 1909, 1911, Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Kravchuk 2001, Golubkov et al. 2007a, Tsuryskau & Khramchankova 2007, 2009a, Tsuryskau et al. 2009, Bely 2010a, Sobchanka et al. 2012, Yatsyna 2014d), GR (Bachmann & Bachmann 1920, Yatsyna 2010g, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Kobzar 1997, Kravchuk 2001, Chernyshov 2004a, Yatsyna 2005, 2010a, 2013b, 2014a, 2015c, Yatsyna & Yurchenko 2013), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk 2001, Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Yatsyna 2008, 2011a, 2013a, 2017, Bely 2011a), no exact locality (Gorbach 1956, Yatsyna 2009e): cor, lig Acp, Aln, Bet, Pin, Poc, Pon, Pot, Pyr, Qur, Sal, Sor.
101. **Caloplaca chlorina** (Flot.) H. Olivier – VI (Bachmann & Bachmann 1920): sil.
102. **Caloplaca obscurella** (J. Lahm) Th. Fr. – MI (Bachmann & Bachmann 1920): cor Pot.
103. **Caloplaca saxicola** (Hoffm.) Nordin – BR (Bely & Golubkov 2009a, Bely 2011b, Yatsyna 2012f, 2014d), GO (Tsuryskau & Khramchankova 2009a, Yatsyna 2012e), GR (Golubkov 1993, Bely & Golubkov 2009a, Yatsyna 2010g, 2012f), MI (Golubkov 1993, Yatsyna 2010a, 2012b, 2012c, 2012f, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Yatsyna 2009b, 2012f), VI (Golubkov 1996, Yatsyna 2008, 2010c, 2011a, 2012f, Bely & Golubkov 2009a): cal, sil.
104. **Candelaria concolor** (Dicks.) Arnold – GO (Tsuryskau 2017c), MI (Yatsyna 2013b, 2013c, 2014a): cor Fre, Til. – Note that *C. conolor* and *C. pacifica* were previously confused in Belarus and thus only reports after Yatsyna (2013b, 2013c) are included here. Earlier reports could refer to either species and the supporting vouchers need to be reexamined.



105. **Candelaria pacifica** M. Westb. & Arup – GO (Tsurykau & Khranchankova 2011a), GR (Yatsyna 2016c), MI (Bely 2013, Yatsyna 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013): cor Acp, Bet, Fre, Lar, Qur, Rob, Sor, Til.
106. **Candelariella aurella** (Hoffm.) Zahlbr. – BR (Golubkov 1987, Bely 2011a, Bely & Kudin 2016), GO (Savicz 1911, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khranchankova 2009a, Bely 2010a, 2016a, Golubkov 2011, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Yatsyna 2010g, 2013a, 2016c), MI (Gorbach 1955, Kobzar 2006, Yatsyna 2007a, 2010a, 2012b, 2012c, 2013b, 2013c, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Yatsyna 2009b, 2013a), VI (Gorbach 1973b, Golubkov 1992, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Bely 2015b), no exact locality (Gorbach 1957): cal, cor, sil, lig Acp, Ahi, Fre, Pon, Pot, Qur, Til, Ulm.
107. **Candelariella coralliza** (Nyl.) H. Magn. – BR (Yatsyna 2013f), GR (Yatsyna 2013f, 2016c), MI (Yatsyna & Golubkov 2009, Yatsyna 2010h), VI (Yatsyna 2013f): sil.
108. **Candelariella reflexa** (Nyl.) Lettau – BR (Yatsyna 2014d), MI (Yatsyna & Golubkov 2009): cor Aln, Mal.
109. **Candelariella vitellina** (Hoffm.) Müll. Arg. – BR (Suza 1928), GO (Savicz 1909, Wyssotzky et al. 1925, Golubkov 1992, 2011, Golubkov et al. 2007a, Tsurykau & Khranchankova 2009a, Bely 2011a, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 1997, 2014a, Golubkov & Khartanovich 2004a, 2004b, 2005, Yatsyna 2010g, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov 1992, 1997, Kravchuk & Kakareka 1995, Yurchenko & Golubkov 2003, Chernyshov 2003, 2004a, Yatsyna 2005, 2009d, 2010a, 2013b, 2013c, 2015c, Yurchenko 2011, Bely 2011a, 2012c, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Savicz 1925, Yatsyna 2009b, 2012a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Yatsyna 2008, 2010c, Bely 2015b), no exact locality (Gorbach 1956, 1957, 1962): cal, cor, lig, sil Acp, Bet, Car, Fre, Lar, Pic, Pin, Pot, Pon, Ppa, Pse, Pyr, Qur, Sal, Sor, Til.
110. **Candelariella xanthostigma** (Ach.) Lettau – BR (Golubkov 1987, Yatsyna 2014d), GO (Savicz 1911, Kreyer 1913, Kravchuk 2001, Tsurykau & Khranchankova 2009a, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, Yatsyna 2016c), MI (Bachmann & Bachmann 1920, Kravchuk 2001, Mavrishev & Dyukova 2008a, Yatsyna 2009d, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Kravchuk 2001, Yatsyna 2009b), VI (Kreyer 1913, Kravchuk 2001, Bely & Golubkov 2008, Yatsyna 2010c, 2010d, 2011a, 2017, Gapienko et al. 2014), no exact locality (Golubkov 1992): cal, cor, lig, sil Acp, Bet, Fre, Pic, Pis, Pon, Pot, Qur, Sal, Til, Ulm.
111. **Carbonicola anthracophila** (Nyl.) Bendiksby & Timdal – MO (Yatsyna 2012a), GO (Tsurykau 2017c): cor, lig Pin.
112. **Carbonicola myrmecina** (Ach.) Bendiksby & Timdal – GR (Yatsyna 2016c), VI (Yatsyna 2017): cor Bet, Pic, Pis.
113. **Catapyrenium cinereum** (Pers.) Körb. – GR (Yatsyna 2015d), MI (Golubkov & Kobzar 2005, Yurchenko 2011), VI (Yatsyna 2010d): cal, ter.
114. **Catillaria croatica** Zahlbr. – GO (Tsurykau 2017a): cor Car, Coa, Pot.
115. **Catillaria nigroclavata** (Nyl.) Schuler – GO (Tsurykau & Khranchankova 2009a), MI (Bely 2010c), VI (Yatsyna 2011e), no exact locality (Tomin 1939): cor, lig Pic, Poc. – Note: The substrates in this entry were obtained from the data associated with the vouchers at GSU.
116. **Catinaria atropurpurea** (Schaer.) Vězda & Poelt – BR (Golubkov 1987, Bely 2011a, Bely & Kudin 2016), GO (Savicz 1911, Golubkov 1992, Golubkov et al. 2007a, Bely 2010a, 2011a), MI (Bely 2011a, Yatsyna & Yurchenko 2013, Yatsyna 2014a), MO (Bely 2011a), VI (Kobzar 2006, Yatsyna 2011a, Bely 2015b): cor, lig Coa, Pin, Pot, Qur, Til, Ulm.

117. **Cetraria aculeata** (Schreb.) Fr. – BR (Golubkov 1986, Yatsyna 2013a), GO (Yatsyna 2013a), GR (Błoński 1889, Bachmann & Bachmann 1920, Golubkov 1986, 1987, 2011, 2014a, Yatsyna 2013a), MI (Bachmann & Bachmann 1920, Golubkov 1987, Golubkov & Yesis 1997a, Yatsyna 2010a, 2013a), VI (Golubkov 1986, 1987, Golubkov & Kobzar 2007, Yatsyna 2010c), no exact locality (Golubkov 1992, 1998, Yatsyna 2009e, Bely 2015a): ter.
118. **Cetraria ericetorum** Opiz – BR (Golubkov 1987, Yurchenko 2011, Yatsyna 2013a), GO (Gorbach 1973b, Golubkov 1987, Tsurykau 2005, Golubkov 2007, Yatsyna 2013a, Tsurykau et al. 2013b), GR (Bachmann & Bachmann 1920, Yatsyna 2009e, 2013a, Yurchenko 2011, Golubkov 2014a), MI (Savicz & Savicz 1924, Savicz 1925, Golubkov & Vynaev 1981, Yatsyna 2010a, 2013a), MO (Kreyer 1913, Yatsyna 2009b), VI (Kreyer 1913, Ges 1961, Gorbach & Mashenkova 1967, Golubkov 1992, Yatsyna 2008, 2010a, 2013a, Bely 2011a), no exact locality (Golubkov 1998): ter.
119. **Cetraria islandica** (L.) Ach. – BR (Golubkov 1987, Golubkov et al. 2012), GO (Palamarchuk et al. 1973, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsurykau 2005, Golubkov 2007, 2011, Tsurykau et al. 2009, 2013b, Golubkov et al. 2012, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Gilibert 1792, Bachmann & Bachmann 1920, Yatsyna 2010g, Golubkov et al. 2012, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna & Stefanovich 2005, Yatsyna 2010a, Yurchenko 2011, Golubkov et al. 2012), MO (Downar 1861, Kreyer 1913, Savicz 1914, Yatsyna 2009b, Golubkov et al. 2012), VI (Kreyer 1913, Bachmann & Bachmann 1920, Ges 1961, Gorbach & Mashenkova 1967, Scherbakova 1982, Golubkov 1991, Golubkov & Kobzar 1996, 2007, Yatsyna 2008, 2010a, 2011a, Bely & Golubkov 2008, Bely 2011a, Golubkov et al. 2012), no exact locality (Gorbach 1973b, Golubkov 1998, Kobzar 1998, Yatsyna 2009e): ter.
120. **Cetraria muricata** (Ach.) Eckfeldt – BR (Golubkov 1993), GR (Golubkov 1993), MI (Golubkov 1993): ter.
121. **Cetraria pinastri** (Scop.) Gray – BR (Golubkov 1987, Yatsyna 2013a, Bely 2016a, Bely & Kudin 2016), GO (Savicz 1909, Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Kravchuk 2001, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2007, 2008, 2015, Tsurykau et al. 2009, 2012b, Golubkov 2011, Bely 2011a, Tsurikova 2013, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Gorbach & Getko 1978, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 1997, Kravchuk 2001, Chernyshov 2003, Yatsyna 2005, 2009d, 2010a, Kobzar 2006, Bely 2010c, 2011a, Yurchenko 2011, Yatsyna & Yurchenko 2013), MO (Savicz & Savicz 1924, Savicz 1925, Yatsyna 2004, 2009b, 2013a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1965d, 1978, Gorbach & Mashenkova 1967, Golubkov 1991, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010f, 2011a, 2013a, 2017, Yurchenko 2011, Bely 2011a), no exact locality (Gorbach 1957, Belomesyatseva 2004, Yatsyna 2009e): cor, lig, sil Acp, Aln, Bet, Fre, Jun, Pic, Pin, Pon, Pot, Qur, Sal, Sor, Til.
122. **Cetraria sepincola** (Ehrh.) Ach. – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2011b), GO (Wyssotzky et al. 1925, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsurykau 2005, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2015, Yatsyna 2011b, Golubkov 2011, Bely 2011a, Tsurikova 2013), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2009e, 2010g, 2011b, 2016c), MI (Bachmann & Bachmann 1920, Oksner 1924, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2010a, 2011b, 2015c, Bely 2010c, 2011a, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2004, 2009b, 2011b), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov & Kobzar 2007, Yatsyna 2008, 2009e, 2010c, 2010d, 2010f, 2011a, 2017, Bely 2011a): cor, lig, sil Acp, Aln, Bet, Jun, Mal, Pce, Pin, Pot, Pyr, Qur, Sal, Sor, Til.
123. **Cetrelia cetrarioides** (Delise) W.L. Culb. & C.F. Culb. – BR (Bely et al. 2014), GR (Bely et al. 2014), MI (Bely et al. 2014), MO (Bely et al. 2014), VI (Bely 2011a, Bely et al. 2014): cor Aln, Bet, Car, Jun, Pot, Qur. – Note: Only records of *C. cetrarioides* published with TLC data are included here as the species



cannot be distinguished from *C. monachorum* without those data. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.

124. **Cetrelia monachorum** (Zahlbr.) W.L. Culb. & C.F. Culb. – BR (Bely 2011a, Bely et al. 2014), GO (Bely et al. 2014), GR (Bely et al. 2014), MI (Randlane & Saag 1992, Bely 2011a, Golubkov et al. 2013, Bely et al. 2014), MO (Bely et al. 2014), VI (Bely 2011a, Bely et al. 2014): cor, lig Acp, Aln, Car, Fre, Pot, Qur, Sal. – Note: Only records of *C. monachorum* published with TLC data are included here as the species cannot be distinguished from *C. cetrarioides* without those data. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
125. **Cetrelia olivetorum** (Nyl.) W.L. Culb. & C.F. Culb. – BR (Bely 2011a, Bely et al. 2014), GO (Bely 2010a, 2011a, Bely et al. 2014), GR (Bely et al. 2014), MI (Bely 2010b, Bely et al. 2014), MO (Bely 2014, Bely et al. 2014), VI (Bely 2010b, Bely et al. 2014): cor, mus Acp, Aln, Bet, Car, Fre, Pot, Qur, Sal, Til. – Note: Only records of *C. olivetorum* published with TLC data are included here because the species was previously considered to be synonymous with *C. cetrarioides* by many authors in Belarus. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
126. **Chaenotheca brachypoda** (Ach.) Tibell – BR (Golubkov 1987, Yatsyna 2014d, 2016a, Bely 2016a), GR (Golubkov 1987, Yatsyna 2016a), MI (Golubkov 1987, 1992, Yatsyna 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, 2016a), VI (Golubkov 1992, Yatsyna 2010c, 2011a, 2016a, 2017, Bely 2013): cor, lig Acp, Aln, Fre, Pic, Poa, Poc, Pot, Qur, Sal, Til.
127. **Chaenotheca brunneola** (Ach.) Müll. Arg. – BR (Golubkov 1987), GR (Golubkov 1987), MI (Golubkov 1987, 1992, Yatsyna 2010f, 2014a), VI (Golubkov 1987, 1992, Golubkov & Titov 1990, Golubkov & Kobzar 2007, Yatsyna 2008): cor, lig Bet, Pin, Qup.
128. **Chaenotheca chlorella** (Ach.) Müll. Arg. – BR (Golubkov 1987, 1992, Yatsyna 2013d), GO (Golubkov 1987), GR (Golubkov 1987, Yatsyna 2016a, 2016c), MI (Golubkov 1987, 1992, Yatsyna 2014a, 2016a), VI (Insarov & Pchelkin 1982, Golubkov 1992, Yatsyna 2013e, 2016a): cor, lig Acp, Car, Pic, Pin, Qup, Qur, Sal, on Trichaptum biforme.
129. **Chaenotheca chrysocephala** (Ach.) Th. Fr. – BR (Golubkov 1987, Yatsyna 2013a, 2016a, Bely & Kudin 2016), GO (Golubkov & Titov 1990, Golubkov 1992, 2011, Bely 2010a, Yatsyna 2016a), GR (Bachmann & Bachmann 1920, Golubkov 1987, Bely 2011a, Yatsyna 2013a, 2016a, 2016c), MI (Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 2006, Yatsyna 2009d, 2015c, 2016a, Bely 2011a, Golubkov et al. 2013), MO (Bely 2011a), VI (Kreyer 1913, Insarov & Pchelkin 1982, Golubkov 1987, 1991, 1992, Golubkov & Titov 1990, Golubkov & Kobzar 2007, Yatsyna 2010c, 2010f, 2016a, 2017, Bely 2011a), no exact locality (Gorbach 1962, Golubkov 1992, Yatsyna 2009e): cor, lig Aln, Bet, Pic, Pin, Qur, Sal.
130. **Chaenotheca cinerea** (Pers.) Tibell – MI (Yatsyna 2016a): cor Qur.
131. **Chaenotheca ferruginea** (Turner ex Sm.) Mig. – BR (Golubkov 1987, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Golubkov & Vynaev 1981, Golubkov 1987, 1992, 2011, Tsurykau 2005, Bely 2010a, 2011a, Tsurykau & Khramchankova 2015, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, 1992, 2014a, Yatsyna 2010g, Bely 2011a), MI (Golubkov & Vynaev 1981, Golubkov & Titov 1990, Golubkov 1992, Chernyshov 2003, Yatsyna 2005, 2009d, 2010a, 2010f, 2013a, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2010c, 2011a, Yurchenko 2011, Yatsyna & Yurchenko 2013), MO (Kobzar 2006, Yatsyna 2009b, 2012a, 2013a, Bely 2011a), VI (Kreyer 1913, Golubkov 1987, 1991, 1992, Kravchuk 2001, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010f, 2011a, 2013a, 2017, Bely 2011a): cor, lig Aln, Bet, Lar, Pic, Pin, Pis, Qur.
132. **Chaenotheca furfuracea** (L.) Tibell – BR (Golubkov 1987, Bely 2011a, Yatsyna 2014d, 2016a, Bely & Kudin 2016), GO (Golubkov 1987, 1992, 2011, Bely 2010a, 2011a, Yatsyna 2016a, Tsurykau & Tsurikova 2017), GR (Yatsyna 2010g, 2013a, 2016a, 2016c, Bely 2011a, Yurchenko 2011, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Golubkov 1987, 1992, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, 2016a, Bely 2011a, Yatsyna & Yurchenko 2013), MO

- (Yatsyna 2012a), VI (Kreyer 1913, Golubkov 1987, Golubkov & Kobzar 2007, Yatsyna 2010c, 2010d, 2010f, 2016a, 2017, Bely 2011a), no exact locality (Golubkov 1992): cor, lig, roo, ter Acp, Aln, Bet, Fre, Poa, Pic, Pin, Qup, Qur, Sal, Til, Ulm.
133. **Chaenotheca gracilenta** (Ach.) J.-E. Mattsson & Middelb. – BR (Golubkov 1987, Yatsyna 2016a), MI (Bachmann & Bachmann 1920): cor Bet, Qur.
  134. **Chaenotheca hispidula** (Ach.) Zahlbr. – GO (Tsurykau 2017c), MO (Yatsyna 2013d): cor Aln, Qur.
  135. **Chaenotheca laevigata** Nádv. – BR (Golubkov 1987), GR (Golubkov 1987), VI (Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2010f): cor, lig Acp, Pin, Qur.
  136. **Chaenotheca phaeocephala** (Turner) Th. Fr. – BR (Bely 2011a, Yatsyna 2014d), GO (Golubkov & Titov 1990, Golubkov 1992, Yatsyna 2016a, Tsurykau & Tsurikova 2017), GR (Golubkov & Titov 1990, Yatsyna 2016a, 2016c), MI (Golubkov & Vynaev 1981, Golubkov & Titov 1990, Golubkov 1992, Bely 2011a, Yatsyna 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, 2016a), MO (Kobzar 2006), VI (Yatsyna 2016a, 2017), no exact locality (Tomin 1939): cor Acp, Lar, Pic, Pin, Poa, Poc, Qur, Til.
  137. **Chaenotheca stemonea** (Ach.) Müll. Arg. – BR (Golubkov 1987, Yatsyna 2013a, 2014d, Bely 2016a, Bely & Kudin 2016), GO (Golubkov 1987, 1992, Tsurykau & Khramchankova 2010b, Bely 2011a, Tsurykau & Khramchankova 2015, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, Kobzar 2006), MI (Golubkov 1987, 1992, Golubkov & Titov 1990, Bely 2011a, Yatsyna 2013b, 2014a, Golubkov et al. 2013), MO (Bely 2011a), VI (Kreyer 1913, Golubkov 1987, 1991, 1992, Golubkov & Kobzar 2007, Bely 2011a, 2011e, Yatsyna 2017), no exact locality (Golubkov 1992): cor, lig Acp, Aln, Bet, Pic, Pin, Qup, Qur.
  138. **Chaenotheca trichialis** (Ach.) Th. Fr. – BR (Golubkov 1987, Bely 2011a, Yatsyna 2013a, 2014d, 2016a, Bely & Kudin 2016), GO (Wyssotzky et al. 1925, Golubkov 1987, 1992, Kobzar 2006, Tsurykau & Khramchankova 2010b, Bely 2011a, Tsurykau & Khramchankova 2015, Yatsyna 2016a, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, 1992, 2014a, Yatsyna 2010g, 2016a, 2016c), MI (Bachmann & Bachmann 1920, Golubkov & Titov 1990, Golubkov 1992, Chernyshov 2003, Yatsyna & Stefanovich 2005, Yatsyna 2010a, 2010f, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, 2016a, Bely 2011a, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Kobzar 2006, Yatsyna 2009b, 2012a, 2016a, Bely 2011a), VI (Kreyer 1913, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2010c, 2010d, 2011a, 2016a, 2017, Bely 2011a): cor, lig Acp, Aln, Bet, Fre, Lar, Pic, Pin, Poa, Pyr, Qup, Qur, Til, Ulm.
  139. **Chaenotheca xyloxena** Nádv. – BR (Golubkov 1987), GO (Bely 2010a, Golubkov 2011), GR (Golubkov 1987), MI (Golubkov 1987, 1992, Golubkov & Titov 1990, Yatsyna 2010f), MO (Yatsyna 2013a), VI (Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2010f, 2011e, 2017, Bely 2011a), no exact locality (Golubkov 1992): cor, lig Aln, Car, Pic, Pin, Qur.
  140. **\*Chaenothecopsis consociata** (Nádv.) A.F.W. Schmidt – GR (Yatsyna 2016c), VI (Yatsyna 2011e, 2017): on *Chaenotheca chrysocephala*.
  141. **\*Chaenothecopsis epithallina** Tibell – GO (Golubkov 2011), GR (Golubkov 1987), VI (Golubkov 1987, Yatsyna 2011e): on *Chaenotheca trichialis*. – Note: The report of this species on pine roots by Yatsyna (2010c) seems doubtful and is not included in the present list. The supporting vouchers should be reexamined to determine the taxonomic status of the report.
  142. **+Chaenothecopsis nana** Tibell – MI (Yatsyna 2015c): cor Qur.
  143. **#Chaenothecopsis pusilla** (Ach.) A.F.W. Schmidt – BR (Golubkov 1987), GO (Tsurykau & Czarnota 2014, Tsurykau & Khramchankova 2015), GR (Yatsyna 2013a), MI (Yurchenko 2011, Yatsyna 2013a, 2015c), VI (Kreyer 1913, Yatsyna 2010f, 2013a, 2017, Yurchenko 2011): cor, lig Car, Qur, Pic, Pin.



144. **#Chaenothecopsis pusiola** (Ach.) Vain. – GR (Golubkov 1987), MI (Golubkov 1987, Yatsyna 2009d, Golubkov et al. 2013): lig, on *Chaenotheca* sp.
145. **+Chaenothecopsis savonica** (Räsänen) Tibell – GO (Tsurykau 2017c): lig.
146. **#Chaenothecopsis viridireagens** (Nádv.) A.F.W. Schmidt – GR (Golubkov 1987), VI (Golubkov 1992): lig Aln.
147. **Chrysothrix candelaris** (L.) J.R. Laundon – BR (Golubkov 1987, Golubkov & Kukwa 2006, Bely 2011a, Yatsyna 2014d), GO (Wyssotzky et al. 1925, Ges 1960, Golubkov 1992, 2007, 2011), GR (Golubkov 1987, Bely 2011a, Yatsyna 2016c), MI (Golubkov 1992, Yatsyna 2014a, 2015c), MO (Kobzar 2006, Yatsyna 2011c), VI (Yatsyna 2011e, 2017), no exact locality (Tomin 1956, Golubkov 1992): cor Acp, Fre, Pic, Qup, Qur, Sal, Til.
148. **Chrysothrix chlorina** (Ach.) J.R. Laundon – VI (Insarov & Pchelkin 1982): cor Pin.
149. **Circinaria calcarea** (L.) A. Nordin, Savić & Tibell – GR (Golubkov 2014b, Yatsyna 2016c), MI (Golubkov & Vynaev 1981), VI (Yurchenko 2011): cal. – Note: The report by Gorbach (1973b) was based on an incorrect nomenclatural update of *Lecanora calcarea* var. *contorta* from the of historical report by Bachmann and Bachmann (1920). Based on the description their report likely refers to *Circinaria contorta*.
150. **Circinaria contorta** (Hoffm.) A. Nordin, S. Savić & Tibell – GR (Golubkov 2014b, Yatsyna 2016c), VI (Bachmann & Bachmann 1920): sil.
151. **Circinaria gibbosa** (Hoffm.) A. Nordin, S. Savić & Tibell – MI (Yurchenko 2011): sil.
152. **Circinaria sphaerothallina** (J. Steiner) Sohrabi – GR (Yurchenko 2011): sil.
153. **Cladonia amaurocraea** (Flörke) Schaer. – GO (Gorbach 1973a, Golubkov 2011), GR (Bachmann & Bachmann 1920, Yatsyna 2013a), MI (Gorbach 1973b), VI (Kobzar 1985), no exact locality (Yatsyna 2009e): ter.
154. **Cladonia arbuscula** (Wallr.) Flot. ssp. **arbuscula** – BR (Tessendorff 1922, Krawiec 1938, Golubkov 1987, Yatsyna 2013a), GO (Savicz 1910, Wyssotzky et al. 1925, Ges 1960, Gorbach 1973a, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsurykau 2005, Timoshenkova & Tsurykau 2005, Kobzar 2006, Tsurykau et al. 2009, 2012c, Golubkov 2011, Yatsyna 2013a, Tsurykau & Tsurikova 2017), GR (Gilibert 1781, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Chernyshov 2003, Yatsyna & Stefanovich 2005, Kobzar 2006, Yatsyna 2010a, 2013a, Yurchenko 2011), MO (Kreyer 1913, Savicz 1925, Yatsyna 2009b, 2013a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Kobzar 2006, Golubkov & Kobzar 2007, Bely & Golubkov 2008, Yatsyna 2008, 2010c, 2010f, 2011a), no exact locality (Tsetterman 1948, Kobzar 1998, Yatsyna 2009e): cor, lig, mus, ter Pic, Pin; ssp. **mitis** (Sandst.) Ruoss – BR (Krawiec 1938, Gorbach 1965d, Golubkov 1987), GO (Golubkov & Vynaev 1981, Golubkov 2007, 2011, Tsurykau & Khramchankova 2009b, Tsurykau et al. 2009, 2012b, Bely 2011a, Tsurykau & Tsurikova 2017), GR (Golubkov 1987), MI (Golubkov & Vynaev 1981, Yatsyna 2009c, Bely 2011a), VI (Kobzar 1983, Golubkov & Kobzar 2007), no exact locality (Tomin 1937, Tsetterman 1948, Yatsyna 2009e): cor, lig, mus, ter Pin.
155. **Cladonia bacilliformis** (Nyl.) Sarnth. – BR (Gorbach 1973b, Golubkov 1987), GO (Danilchuk et al. 1976, Golubkov 1992, 2011), GR (Kobzar 2006, Golubkov 2014a), MI (Gorbach 1955, Gorbach 1965d, Golubkov & Vynaev 1981, Golubkov 1992, Yatsyna 2009c), VI (Tsetterman 1948, Golubkov 1987, 1992, Golubkov & Kobzar 2007), no exact locality (Tomin 1937): cor, lig, ter Bet, Pic, Pin.
156. **Cladonia botrytes** (K.G. Hagen) Willd. – BR (Suza 1928, Golubkov 1987, Yatsyna 2013a), GO (Ljubitzkaja 1914, Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Tsurykau 2005, Kobzar 2006,

- Tsurykau et al. 2009, 2012c, Golubkov 2011, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 1992, 2014a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2004c, Kobzar 2006, Yatsyna 2009c, 2010a, 2013a, 2015c), MO (Savicz & Savicz 1924, Savicz 1925, Yatsyna 2004, 2009b, 2013a), VI (Kreyer 1913, Kobzar 1983, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2017, Bely 2011a), no exact locality (Tsetterman 1948, Gorbach 1973b, Kobzar 1998, Yatsyna 2009e): cor, lig, ter Bet, Pic, Pin, Qur.
157. **Cladonia caespitica** (Pers.) Flörke – GO (Bely 2010a, Yatsyna 2013e), GR (Golubkov 1987), MI (Golubkov et al. 2013, Yatsyna 2013a), MO (Bely 2014), VI (Bely 2008a, Yatsyna 2013e), no exact locality (Oksner 1968): cor, mus, ter Aln, Pic, Qur, Til.
158. **Cladonia cariosa** (Ach.) Spreng. – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2013a), GO (Gorbach 1973a, Golubkov 1992, 2007), GR (Bachmann & Bachmann 1920, Golubkov 1992, 2014a, Yatsyna 2010g), MI (Oksner 1925, Tsetterman 1948, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, 2004a, Yatsyna 2009c, 2010a, 2015c, Yurchenko 2011), MO (Tsetterman 1948, Yatsyna 2004, 2009b, 2013b), VI (Kreyer 1913, Tsetterman 1948, Kobzar 1983, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a), no exact locality (Bely 2013): lig, ter.
159. **Cladonia carneola** (Fr.) Fr. – BR (Golubkov 1987), GO (Gorbach 1973b, Golubkov 1992, 2007, Tsurykau & Khramchankova 2007, 2008), GR (Bachmann & Bachmann 1920, Golubkov 1992, 2014a, Yatsyna 2010g), MI (Bachmann & Bachmann 1920, Tsetterman 1948, Golubkov & Vynaev 1981, Yatsyna 2009c, 2010a), MO (Tsetterman 1948, Yatsyna 2004, Yatsyna 2013a), VI (Golubkov 1992, Golubkov & Kobzar 2007), no exact locality (Gorbach 1965d, Golubkov 1992): cor, lig, ter Qur.
160. **Cladonia cenotea** (Ach.) Schaer. – BR (Suza 1928, Golubkov 1987, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Ges 1960, Gorbach 1973a, Golubkov & Vynaev 1981, Golubkov 2007, 2011, Tsurykau 2005, Tsurykau et al. 2009, 2012b, 2012c, Bely 2010a, 2011a, Yatsyna 2013a, 2014d, Tsurykau & Khramchankova 2015, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 1992, 2014a, Yatsyna 2010g, 2013a, Bely 2011a), MI (Bachmann & Bachmann 1920, Savicz 1925, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, Chernyshov 2003, 2004c, Yatsyna 2009c, 2010a, 2013a, 2015c, Bely 2010c, 2011a), MO (Savicz & Savicz 1924, Yatsyna 2004, 2009b, 2013a), VI (Kreyer 1913, Tsetterman 1948, Golubkov 1991, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010f, 2011a, 2013a, 2017, Bely 2011a), no exact locality (Yatsyna 2009e): cor, lig, mus, ter Aln, Bet, Car, Pic, Pin, Pot.
161. **Cladonia cervicornis** (Ach.) Flot. – GR (Bachmann & Bachmann 1920), VI (Kreyer 1913): ter. – Note: The reports of *C. cervicornis* (Ach.) Flot. by Yatsyna (2008, 2011a, 2013a) are treated as referring *C. verticillata* (Hoffm.) Schaer. and thus included under that species.
162. **Cladonia chlorophaea** (Flörke ex Sommerf.) Spreng. – BR (Tsurykau & Golubkov 2015), GO (Tsurykau & Golubkov 2015, Tsurykau & Tsurikova 2017), GR (Tsurykau & Golubkov 2015), MI (Tsurykau & Golubkov 2015), MO (Tsurykau & Golubkov 2015), VI (Tsurykau & Golubkov 2015): cor, lig, sil, ter Aln, Bet, Lar, Pin, Pot, Qur, Sal, Sor, Til. – Note: Only records of *C. chlorophaea* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the *C. chlorophaea* group without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
163. **Cladonia coccifera** (L.) Willd. – BR (Golubkov 1987), GO (Savicz 1911, Wyssotzky et al. 1925, Gorbach 1973a, Golubkov 1992, Tsurykau & Khramchankova 2007), GR (Gilibert 1781, 1792, Golubkov 1992, 2014a, Kobzar 2006, Yatsyna 2013a), MI (Oksner 1924, Tsetterman 1948, Golubkov & Vynaev 1981, Golubkov 1992, Yatsyna 2009c, 2013a), MO (Tsetterman 1948, Yatsyna 2009b), VI (Kreyer 1913, Tsetterman 1948, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2010c, 2011a, Bely 2011a), no exact locality (Gorbach 1973b, Kobzar 1998, Yatsyna 2009e): lig, mus, ter.



164. **Cladonia coniocraea** (Flörke) Spreng. – BR (Golubkov 1987, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1910, Ljubitzkaja 1914, Ges 1960, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Tsurykau 2005, Golubkov et al. 2007a, Tsurykau & Khramchankova 2007, 2008, 2015, Tsurykau et al. 2009, 2012b, 2012c, 2016a, Bely 2010a, 2011a, Sobchanka et al. 2012,), GR (Golubkov 1987, 1992, 2014a, Kobzar 2006, Bely 2011a, Yatsyna 2016c), MI (Oksner 1924, Tsetterman 1948, Gorbach 1955, 1973b, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, Kobzar 1997, 2006, Chernyshov 2003, 2004a, 2004b, 2004c, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2009c, 2012b, 2012c, 2013b, 2014a, 2015c, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013), MO (Kreyer 1913, Savicz 1925, Yatsyna 2004, 2009b, Bely 2011a), VI (Kreyer 1913, Tsetterman 1948, Gorbach 1965d, 1973b, Golubkov 1991, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2017, Bely 2011a, Yurchenko 2011), no exact locality (Belomesyatseva 2004): cal, cor, lig, mus, sil, ter Acp, Aln, Bet, Fre, Jun, Pic, Pin, Pot, Qur, Sor, Til, on Lobaria pulmonaria.
165. **Cladonia conista** (Nyl.) Robbins – BR (Tsurykau & Golubkov 2015), GO (Tsurykau & Golubkov 2015), MI (Tsurykau & Golubkov 2015): cor, ter Pot.
166. **Cladonia cornuta** (L.) Hoffm. – BR (Krawiec 1938, Golubkov 1987, Bely 2011b, Yatsyna 2013a), GO (Savicz 1911, Wyssotzky et al. 1925, Gorbach 1973a, Golubkov & Vynaev 1981, Tsurykau 2005, Tsurykau et al. 2009, 2012b, 2012c, Golubkov 2011, Bely 2011a), GR (Gilibert 1781, 1792, Golubkov 1987, 1992, 2014a, Yatsyna 2010g, 2013a, 2016c), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Tsetterman 1948, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, Chernyshov 2003, 2004a, 2004c, Yatsyna 2009c, 2010a, 2013a), MO (Savicz 1925, Tsetterman 1948, Yatsyna 2004, 2009b, 2013a), VI (Kreyer 1913, Tsetterman 1948, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2013a), no exact locality (Gorbach 1973b, Kobzar 1998, Belomesyatseva 2004, Yatsyna 2009e): cor, lig, mus, sil, ter Bet, Jun, Pic, Pin, Pot.
167. **Cladonia crispata** (Ach.) Flot. – BR (Krawiec 1938, Golubkov 1987, Bely 2011a, Yatsyna 2013a), GO (Wyssotzky et al. 1925, Gorbach 1973a, Golubkov & Vynaev 1981, Tsurykau & Khramchankova 2007, Tsurykau et al. 2009, 2012c, Golubkov 2011, Bely 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 1992, 2014a, Yatsyna 2010g, 2016c), MI (Savicz 1925, Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 2006, Yatsyna 2009c, 2010a, Yurchenko 2011, Bely 2011a), MO (Tsetterman 1948, Yatsyna 2004, 2009b), VI (Kreyer 1913, Tsetterman 1948, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a), no exact locality (Gorbach 1973b, Kobzar 1998, Yatsyna 2009e): cor, lig, mus, ter Bet, Pic, Pin.
168. **Cladonia cryptochlorophaea** Asahina – GO (Tsurykau & Golubkov 2015), MI (Tsurykau & Golubkov 2015): ter.
169. **Cladonia cyanipes** (Sommerf.) Nyl. – VI (Golubkov 2002): ter.
170. **Cladonia deformis** (L.) Hoffm. – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2013a), GO (Wyssotzky et al. 1925, Ges 1960, Gorbach 1973a, Golubkov & Vynaev 1981, Tsurykau 2005, Tsurykau et al. 2009, 2012c, Golubkov 2011, Yatsyna 2013a), GR (Golubkov 1987, 1992, 2014a, Yatsyna 2013a), MI (Oksner 1924, Savicz & Savicz 1924, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, Chernyshov 2003, Yatsyna & Stefanovich 2005, Bely 2011a, Yatsyna 2013a), MO (Kreyer 1913, Yatsyna 2004, 2013a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2011a), no exact locality (Gorbach 1973b, Kobzar 1998, Yatsyna 2009e): cor, lig, mus, ter Bet, Pic, Pin.
171. **Cladonia digitata** (L.) Hoffm. – BR (Golubkov 1987, Bely 2011a, Tsurykau et al. 2012c, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Wyssotzky et al. 1925, Ges 1960, Gorbach 1973a, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Tsurykau & Khramchankova 2007, Tsurykau et al. 2009, 2012c, Bely 2010a, 2011a), GR (Golubkov 1987, 1992, 2014a, Yatsyna 2010g, Bely 2011a), MI (Bachmann & Bachmann 1920, Savicz 1925, Tsetterman 1948, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna & Stefanovich 2005, Yatsyna 2010a, 2010f, 2013a, 2014a, 2015c,

Yatsyna & Yurchenko 2013, Bely 2010c, 2011a), MO (Savicz & Savicz 1924, Savicz 1925, Tsetterman 1948, Yatsyna 2004, 2009b, 2012a, 2013a, Bely 2011a), VI (Kreyer 1913, Tsetterman 1948, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2013a, 2017, Bely 2011a): cor, lig, mus, ter Bet, Pic, Pin, Qur.

172. **Cladonia fimbriata** (L.) Fr. – BR (Tessendorff 1922, Golubkov 1987, Bely 2011a, Yatsyna 2013a, Tsurykau & Golubkov 2015, Bely & Kudin 2016), GO (Savicz 1910, Wyssotzky et al. 1925, Ges 1960, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Golubkov et al. 2007a, Tsurykau & Khramchankova 2007, 2008, Tsurykau et al. 2009, 2012b, 2012c, Bely 2010a, Golubkov 2011, Bely 2011a, Sobchanka et al. 2012, Tsurykau & Golubkov 2015), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 1992, 2014a, Golubkov & Khartanovich 2004b, Yatsyna 2010g, Bely 2011a, Yatsyna 2013a, Tsurykau & Golubkov 2015), MI (Bachmann & Bachmann 1920, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, Chernyshov 2003, 2004a, 2004c, Yatsyna 2005, 2009c, 2010a, 2013b, 2013c, 2015c, Bely 2010c, 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Tsurykau & Golubkov 2015), MO (Kreyer 1913, Savicz 1925, Yatsyna 2004, 2009b, 2013a, Bely 2011a, Tsurykau & Golubkov 2015), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, Bely 2011a, Tsurykau & Golubkov 2015), no exact locality (Tsetterman 1948, Gorbach 1973b, Kobzar 1998): cor, lig, mus, sil, ter Aln, Bet, Car, Fre, Pic, Pin, Pon, Pot, Qur, Til.
173. **Cladonia floerkeana** (Fr.) Flörke – BR (Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Wyssotzky et al. 1925, Ges 1960, Golubkov 1992, 2011, Tsurykau 2005, Bely 2010a, 2011a, Yatsyna 2013a), GR (Yatsyna 2010g, Golubkov 2014a), MI (Oksner 1924, Savicz 1925, Golubkov & Vynaev 1981, Chernyshov 2004a, 2004c, Yatsyna 2009c, 2010f, Bely 2011a), MO (Savicz & Savicz 1924, Tsetterman 1948, Yatsyna 2004), VI (Kreyer 1913, Tsetterman 1948, Golubkov 1992, Yatsyna 2010c, 2013a), no exact locality (Gorbach 1973b): cor, lig, mus, ter Car, Pic, Pin.
174. **Cladonia foliacea** (Huds.) Willd. – BR (Golubkov 2002, 2009a), GR (Golubkov 2009a, Yatsyna 2015d), MI (Yatsyna 2010a), MO (Yatsyna 2015e), VI (Yatsyna 2010c): mus, ter.
175. **Cladonia furcata** (Huds.) Schrad. ssp. **furcata** – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2013a), GO (Savicz 1910, Ges 1960, Gorbach 1973a, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau et al. 2009, 2012c, Golubkov 2011, Bely 2011a, Sobchanka et al. 2012, Yatsyna 2014d), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a, 2016c), MI (Savicz & Savicz 1924, Savicz 1925, Tsetterman 1948, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna & Stefanovich 2005, Kobzar 2006, Yatsyna 2010a, 2013a, Yurchenko 2011, Bely 2011a), MO (Yatsyna 2009b, 2013a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c), no exact locality (Gorbach 1973b): lig, mus, ter Pin; ssp. **subrangiformis** (L. Scriba ex Sandst.) Pišút – BR (Krawiec 1938), GO (Tsurykau & Khramchankova 2007), GR (Bachmann & Bachmann 1920), MI (Bachmann & Bachmann 1920), MO (Kreyer 1913), VI (Kreyer 1913, Bachmann & Bachmann 1920, Golubkov 1992): ter.
176. **Cladonia glauca** Flörke – BR (Golubkov 1987, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Golubkov 1992, Bely 2010a, 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1987), MI (Gorbach 1965d, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Yatsyna 2009c), VI (Golubkov 1987, 1992), no exact locality (Gorbach 1965d): cor, lig, mus, ter Aln, Bet, Pin.
177. **Cladonia gracilis** (L.) Willd. – BR (Tessendorff 1922, Krawiec 1938, Golubkov 1987, Yurchenko 2011, Yatsyna 2013a), GO (Savicz 1911, Ljubitzkaja 1914, Wyssotzky et al. 1925, Ges 1960, Gorbach 1973a, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsurykau 2005, Golubkov et al. 2007a, Tsurykau et al. 2009, 2012c, Golubkov 2011, Bely 2011a, Yatsyna 2014d), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Kobzar 2006, Yatsyna 2010g, 2013a, 2016c), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Tsetterman 1948, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, Chernyshov 2003, Yatsyna & Stefanovich 2005, Kobzar 2006, Yatsyna 2010a, 2013a, Yurchenko 2011, Bely 2011a), MO (Savicz 1925, Tsetterman



1948, Yatsyna 2004, 2009b, 2013a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Tsetterman 1948, Gorbach & Mashenkova 1967, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, Bely 2011a), no exact locality (Gorbach 1973b, Kobzar 1998, Yatsyna 2009e): cor, lig, mus, ter Bet, Pic, Pin.

178. **Cladonia grayi** G. Merr. ex Sandst. – BR (Tsurykau & Golubkov 2015), GO (Tsurykau & Golubkov 2015), GR (Tsurykau & Golubkov 2015), MI (Tsurykau & Golubkov 2015), MO (Tsurykau & Golubkov 2015, Tsurykau 2017a), VI (Tsurykau & Golubkov 2015, Tsurykau 2017a): cor, lig, ter Aln, Bet, Car, Jun, Pic, Pin, Qur. – Note: Only records of *C. grayi* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the *C. chlorophaea* group without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
179. **Cladonia homosekikaica** Nuno – MI (Tsurykau & Golubkov 2015): lig.
180. **Cladonia incrassata** Flörke – BR (Suza 1928, Bely 2011a, 2011b, Yatsyna 2013a), GO (Golubkov 1992, Bely 2010a, Tsurykau & Khramchankova 2010b, Yurchenko 2011), MI (Savicz & Savicz 1924, Savicz 1925, Tsetterman 1948, Golubkov 1992, Yatsyna 2009c, 2010f, Bely 2011a, Golubkov et al. 2013), MO (Yatsyna 2004, 2013a, Bely 2011a), VI (Golubkov 1992, Bely 2011a), no exact locality (Gorbach 1973b): cor, lig, roo, ter Pic, Pin.
181. **Cladonia macilenta** Hoffm. – BR (Błoński 1888, Golubkov 1987, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Savicz 1911, Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Tsurykau & Khramchankova 2009b, 2015, Tsurykau et al. 2009, 2012b, 2012c, Bely 2010a, 2011a, Golubkov 2011, Yatsyna 2013a, 2014d), GR (Golubkov 1987, 2014a, Yatsyna 2010g, 2013a), MI (Bachmann & Bachmann 1920, Oksner 1924, Golubkov & Vynaev 1981, Chernyshov 2003, Kobzar 2006, Yatsyna 2009c, 2010a, 2010f, 2013a, 2015c, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Kreyer 1913, Savicz & Savicz 1924, Savicz 1925, Tsetterman 1948, Yatsyna 2004, 2009b, 2013a, Bely 2011a), VI (Kreyer 1913, Tsetterman 1948, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2013a, 2017, Bely 2011a), no exact locality (Gorbach 1973b, Yatsyna 2009e): cor, lig, mus, ter Bet, Pic, Pin, Pot, Qur; var. **bacillaris** (Genth) Schaer. – BR (Krawiec 1938, Golubkov 1987, Bely 2011a, Bely & Kudin 2016), GO (Savicz 1911, Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Golubkov 1992, Tsurykau 2005, Golubkov et al. 2007a, Tsurykau et al. 2009, 2012c, Bely 2010a, 2011a), GR (Golubkov 1987, 1992), MI (Tsetterman 1948, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, Yatsyna & Stefanovich 2005, Bely 2011a), MO (Savicz & Savicz 1924, Tsetterman 1948, Yatsyna 2004), VI (Kreyer 1913, Tsetterman 1948, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Bely 2011a), no exact locality (Tomin 1937, Kobzar 1998): cor, lig, mus, ter Bet, Pic, Pin, Qur.
182. **Cladonia macrophylla** (Schaer.) Stenh. – MI (Golubkov 1992): ter.
183. **Cladonia merochlorophaea** Asahina – BR (Tsurykau & Golubkov 2015), GO (Tsurykau & Golubkov 2015, Tsurykau 2017a), GR (Tsurykau & Golubkov 2015), MI (Tsurykau & Golubkov 2015): cor, lig, ter Bet, Jun, Pin.
184. **Cladonia monomorpha** Aptroot, Sipman & van Herk – BR (Tsurykau & Golubkov 2015), GO (Tsurykau & Golubkov 2015), GR (Tsurykau & Golubkov 2015), MI (Tsurykau & Golubkov 2015), VI (Tsurykau & Golubkov 2015): sil, ter.
185. **Cladonia novochlorophaea** (Sipman) Brodo & Ahti – GO (Tsurykau & Golubkov 2015): cor, ter Pin.
186. **Cladonia norvegica** Tønsberg & Holien – GO (Yatsyna 2012e), MI (Bely 2011a, Yatsyna 2011c, 2015c, Golubkov et al. 2013), MO (Yatsyna 2011c), VI (Bely 2011a): cor, lig, mus, ter Bet, Pin, Qur.
187. **Cladonia parasitica** (Hoffm.) Hoffm. – BR (Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Golubkov 1987, 1992, 2007, Bely 2010a), GR (Golubkov 1987, 2014a, Valko 2008, Yatsyna 2010g), MI

- (Gorbach 1965d, Golubkov & Vynaev 1981, Golubkov 1992, Bely 2011a, Golubkov et al. 2013), MO (Savicz 1925), VI (Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2011a), no exact locality (Gorbach 1965d): cor, lig, ter Bet, Pic, Pin, Qur.
188. **Cladonia phyllophora** Hoffm. – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2013a), GO (Savicz 1911, 1925, Golubkov & Vynaev 1981, Tsurykau 2005, Tsurykau et al. 2009, 2012c, Golubkov 2011, Bely 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a), MI (Bachmann & Bachmann 1920, Savicz 1925, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Chernyshov 2003, Kobzar 2006, Yatsyna 2009c, 2010a, Yurchenko 2011, Bely 2011a), MO (Savicz 1925, Tsetterman 1948), VI (Kreyer 1913, Bachmann & Bachmann 1920, Tsetterman 1948, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2010c, 2011a): lig, mus, ter.
  189. **Cladonia pleurota** (Flörke) Schaer. – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2013a), GO (Gorbach 1973b, Lapitskaya et al. 1979, Golubkov 1992), GR (Yatsyna 2010g, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Savicz 1925, Tsetterman 1948, Yatsyna 2009c, 2010a, 2013a), MO (Yatsyna 2009b), VI (Bachmann & Bachmann 1920, Yatsyna 2008, 2010c, Yurchenko 2011, Bely 2011a): lig, ter Pin.
  190. **Cladonia pocillum** (Ach.) O.J. Rich. – GR (Golubkov 1993, 2014a, Yatsyna 2013d), MI (Golubkov 1993), VI (Golubkov 1993): cal, mus, sil.
  191. **Cladonia polydactyla** (Flörke) Spreng. – GR (Bachmann & Bachmann 1920), MI (Bachmann & Bachmann 1920, Yatsyna 2009c), VI (Golubkov 1992): ter.
  192. **Cladonia portentosa** (Dufour) Coem. – BR (Krawiec 1938), GO (Golubkov 2011), GR (Bachmann & Bachmann 1920), MI (Yatsyna 2009c), MO (Tsetterman 1948, Yatsyna 2004), VI (Tsetterman 1948, Kobzar 2006, Yatsyna 2010f) no exact locality (Gorbach 1973b, Bely & Vashkevich 2017): ter.
  193. **Cladonia pyxidata** (L.) Hoffm. – BR (Tsurykau & Golubkov 2015), GO (Tsurykau & Golubkov 2015), GR (Tsurykau & Golubkov 2015), MI (Tsurykau & Golubkov 2015), VI (Tsurykau & Golubkov 2015): sil, ter. – Note: Only records of *C. pyxidata* published subsequent to Tsurykau and Golubkov (2015) are included here as the species was historically confused with several other members of the genus. Earlier reports could refer to other taxa and thus require confirmation via examination of the supporting vouchers.
  194. **Cladonia ramulosa** (With.) J.R. Laundon – BR (Krawiec 1938, Kobzar 2006), GO (Ljubitzkaja 1914, Golubkov 1992, Bely 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1987, Yatsyna 2013a), MI (Yatsyna 2009c, 2010a, Bely 2011a), MO (Yatsyna 2013a), VI (Golubkov 1992, Yatsyna 2008, 2010c, 2011a), no exact locality (Yatsyna 2009e): lig, mus, ter.
  195. **Cladonia rangiferina** (L.) F.H. Wigg. – BR (Tessendorff 1922, Kobzar 2006, Yatsyna 2013a), GO (Savicz 1911, Wyssotzky et al. 1925, Ges 1960, Gorbach 1973a, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau et al. 2009, 2012b, 2012c, Golubkov 2011, Tsurykau & Tsurikova 2017), GR (Gilibert 1792, Błoński 1889, Bachmann & Bachmann 1920, Yatsyna 2010g, 2013a, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Chernyshov 2004a, 2004c, Yatsyna & Stefanovich 2005, Kobzar 2006, Yatsyna 2010a, 2013a, Yurchenko 2011), MO (Downar 1861, Kreyer 1913, Savicz 1925, Yatsyna 2009b, 2013a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Scherbakova 1982, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2013a), no exact locality (Tsetterman 1948, Kobzar 1998, Yatsyna 2009e, 2010f, 2011a, Bely 2013): cor, lig, mus, ter Bet, Pin.
  196. **Cladonia rangiformis** Hoffm. – BR (Krawiec 1938, Gorbach 1973b), GO (Gorbach 1973b), GR (Kobzar 2006, Yatsyna 2016c), MI (Tsetterman 1948, Golubkov 1993), MO (Yatsyna 2013a), VI (Gorbach 1973b): mus, ter.
  197. **Cladonia rei** Schaer. – BR (Kobzar 2006), GO (Golubkov & Vynaev 1981, Golubkov 1992, 2007, 2011, Tsurykau 2005, Tsurykau & Khranchankova 2010b, Tsurykau et al. 2012c, Tsurykau & Tsurikova 2017),



- GR (Golubkov 1992, 2014a), MI (Tsetterman 1948, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2004b, Yatsyna 2009c, Yurchenko 2011), MO (Tsetterman 1948), VI (Kreyer 1913, Tsetterman 1948, Golubkov 1992, Golubkov & Kobzar 2007, Bely 2011a), no exact locality (Golubkov 1987, Yatsyna 2009e): lig, ter.
198. **Cladonia scabriuscula** (Delise) Leight. – BR (Golubkov 1987), GO (Golubkov 1987), MI (Bely 2011a): cor, lig, mus Pic.
199. **Cladonia squamosa** (Scop.) Hoffm. – BR (Golubkov 1987, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Golubkov & Vynaev 1981, Golubkov 1992, 2007, 2011, Tsurykau 2005, Tsurykau et al. 2009, 2012c, Bely 2010a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a), MI (Bachmann & Bachmann 1920, Savicz & Savicz 1924, Savicz 1925, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Kobzar 2006, Yatsyna 2009c, 2010a, Bely 2011a), MO (Yatsyna 2004), VI (Kreyer 1913, Bachmann & Bachmann 1920, Tsetterman 1948, Insarov & Pchelkin 1982, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2011a, 2013a, Bely 2011a), no exact locality (Gorbach 1965d): cor, lig, mus, sil, ter Bet, Pic, Pin, Qur.
200. **Cladonia symphycarpia** (Flörke) Fr. – GR (Yatsyna 2015d): cal, mus.
201. **Cladonia stellaris** (Opiz) Pouzar & Vězda – BR (Kobzar 2006, Yatsyna 2013a), GO (Kobzar 2006, Golubkov 2007, Yatsyna 2013a), GR (Yatsyna 2013a), MI (Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Golubkov & Vynaev 1981, Yatsyna & Stefanovich 2005, Kobzar 2006, Yurchenko 2011, Yatsyna 2013a), MO (Kobzar 2006, Yatsyna 2009b), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Scherbakova 1982, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, Yurchenko 2011), no exact locality (Tsetterman 1948, Golubkov 1987, Kobzar 1998, Yatsyna 2009e, 2011a, Bely & Vashkevich 2017): mus, ter.
202. **Cladonia stygia** (Fr.) Ruoss – VI (Yatsyna 2011e): mus, ter.
203. **Cladonia subulata** (L.) Weber ex F.H. Wigg. – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2013a), GO (Ges 1960, Golubkov & Vynaev 1981, Tsurykau 2005, Golubkov 2007, 2011, Tsurykau & Khramchankova 2009a, Tsurykau et al. 2009, 2012c, Bely 2011a, Tsurykau & Tsurikova 2017), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a), MI (Oksner 1924, Tsetterman 1948, Golubkov & Vynaev 1981, Chernyshov 2003, Kobzar 2006, Yatsyna 2009c, 2010a, 2013a, Yurchenko 2011, Bely 2011a), MO (Kreyer 1913, Yatsyna 2004, 2009b, 2013a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a), no exact locality (Yatsyna 2009e): cor, lig, mus, ter Pic.
204. **Cladonia sulphurina** (Michx.) Fr. – MI (Tsetterman 1948, Golubkov 1993), VI (Golubkov 1993): lig, ter.
205. **Cladonia tenuis** (Flörke) Harm. – GO (Tsurykau 2005), GR (Bachmann & Bachmann 1920), MI (Bachmann & Bachmann 1920, Golubkov & Yesis 1997a, Yatsyna 2009c, Yurchenko 2011), MO (Yatsyna 2004), VI (Scherbakova 1982, Kobzar 2006), no exact locality (Tomin 1937, Tsetterman 1948, Gorbach 1965d): ter, lig Pic.
206. **Cladonia turgida** (Ehrh.) Hoffm. – BR (Kobzar 2006, Yatsyna 2013a), GO (Tsurykau 2005, Tsurykau et al. 2009, 2012c, Yatsyna 2013a), GR (Bachmann & Bachmann 1920, Gorbach 1973a, Yatsyna 2013a, Golubkov 2014a), MI (Oksner 1924, Savicz 1925, Tsetterman 1948, Golubkov & Vynaev 1981, Kobzar 2006, Yatsyna 2009c, 2010a, 2013a), MO (Kreyer 1913, Tsetterman 1948, Kobzar 2006, Yatsyna 2009b, 2013a), VI (Kreyer 1913, Gorbach 1965d, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, Bely 2011a), no exact locality (Golubkov 1987, Yatsyna 2009e): ter.
207. **Cladonia uncialis** (L.) F.H. Wigg. ssp. **uncialis** – BR (Golubkov 1987, Yatsyna 2013a), GO (Ges 1960, Golubkov 1992, 2007, Tsurykau 2005, Tsurykau et al. 2009, 2012c, Yatsyna 2013a), GR (Gilibert 1781, 1792, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a), MI (Bachmann & Bachmann 1920, Tsetterman 1948, Gorbach 1955, Golubkov & Vynaev 1981, Yatsyna & Stefanovich 2005, Yatsyna 2010a, 2013a),

MO (Tsetterman 1948, Yatsyna 2004, 2009b, 2013a), VI (Tsetterman 1948, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2013a), no exact locality (Kobzar 1998, Yatsyna 2009e, 2011a, Bely 2013): lig, ter; ssp. **biuncialis** (Hoffm.) M. Choisy – BR (Golubkov 1987), GR (Golubkov 1987, 2014a): ter.

208. **Cladonia verticillata** (Hoffm.) Schaer. – BR (Krawiec 1938, Golubkov 1987, Bely & Kudin 2016), GO (Savicz 1910, Wyssotzky et al. 1925, Gorbach 1973a, Golubkov & Vynaev 1981, Tsurykau 2005, Tsurykau et al. 2009, 2012c, Bely 2010a, 2011a, Yurchenko 2011, Golubkov 2011, Yatsyna 2013a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g), MI (Bachmann & Bachmann 1920, Savicz & Savicz 1924, Savicz 1925, Golubkov & Vynaev 1981, Golubkov 1987, Chernyshov 2003, 2004a, Yatsyna 2009c, 2010a, 2013a, Bely 2011a), VI (Bachmann & Bachmann 1920, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a), no exact locality (Tsetterman 1948, Yatsyna 2009e): cor, lig, mus, ter Bet. – Note: All reports of *C. cervicornis* (Ach.) Flot. by Yatsyna (2008, 2011a, 2013a) are treated as referring *C. verticillata*.
209. **Clauzadea monticola** (Ach. ex Schaer.) Hafellner & Bellem. – GR (Bachmann & Bachmann 1920), VI (Kreyer 1913): cal, sil.
210. **Cliostomum corrugatum** (Ach.: Fr.) Fr. – GO (Yatsyna 2012e), GR (Yatsyna 2013d), MI (Yatsyna 2013c, 2014a, 2015c), no exact locality (Oksner 1968): cor Acp, Fre, Qur, Til.
211. **Cliostomum griffithii** (Sm.) Coppins – VI (Kobzar 2006, Yatsyna 2012g), no exact locality (Oksner 1968): cor Pin.
212. **Cliostomum leprosum** (Räsänen) Holien & Tønsberg – GO (Tsurykau & Khranchankova 2013), MI (Golubkov & Kukwa 2006): cor Pin.
213. **Coenogonium pineti** (Ach.) Lücking & Lumbsch – BR (Golubkov & Gagarina 2010, Bely 2011a, Yatsyna 2014d, Bely & Kudin 2016), GO (Tsurykau & Khranchankova 2009b, 2015, Bely 2010a, 2011a, Golubkov 2011), GR (Golubkov & Gagarina 2010, Bely 2011a, Yatsyna 2016c), MI (Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Gagarina 2010, Bely 2011a, Yatsyna 2011c, 2012b, 2012c, 2013b, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Bely 2011a, Yatsyna 2011c), VI (Gorbach & Osmolovskaya 1965, Yatsyna 2010c, 2017, Bely 2011a): cor, lig, mus Aln, Bet, Car, Pic, Pin, Pis, Qur, Sal, Sam, Til, Ulm.
214. **Collema flaccidum** (Ach.) Ach. – GR (Makarevich 1960, Yurchenko 2011), MI (Golubkov 1987, Yurchenko 2011), VI (Yatsyna 2011e): cor, mus Pot, Qur.
215. **Collema nigrescens** (Huds.) DC. – BR (Krawiec 1938): cor Sal.
216. **Collema subflaccidum** Degel. – GR (Golubkov & Bludov 2005, Yatsyna 2015d): cal.
217. **Cresponea chloroconia** (Tuck.) Egea & Torrente – VI (Kreyer 1913): cor, lig Pic, Pin.
218. **Cyphelium notarisii** (Tul.) Blomb. & Forssell – GO (Tsurykau & Khranchankova 2009b, Golubkov 2011): cor, lig Pin.
219. **Cyphelium tigillare** (Ach.) Ach. – GO (Wyssotzky et al. 1925, Yatsyna & Motiejūnaite 2015), MI (Bachmann & Bachmann 1920, Yatsyna 2009d), MO (Yatsyna 2012a, 2013d), VI (Yatsyna 2011e): lig.
220. **Dermatocarpon miniatum** (L.) W. Mann. – MI (Golubkov & Yesis 1997a, Yatsyna & Motiejūnaite 2015), no exact locality (Gorbach 1965d): cal, sil.
221. **Dibaeis baeomyces** (L. f.) Rambold & Hertel – BR (Krawiec 1938), GO (Savicz 1910, Golubkov 1992, 2011, Golubkov et al. 2007a), GR (Gilibert 1792, Bachmann & Bachmann 1920, Golubkov 2014a, Yatsyna 2010b), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 2006, Yatsyna 2010b, 2010h, Golubkov et al. 2013), MO (Downar



- 1862), VI (Kreyer 1913, Golubkov 1992, Golubkov & Kobzar 2007, Bely 2011a, 2011e), no exact locality (Tomin 1937, Kobzar 1998): ter.
222. **Dimelaena oreina** (Ach.) Norman – GO (Yatsyna & Motiejūnaite 2015), no exact locality (Novruzov 1990): sil.
223. **Diploschistes muscorum** (Scop.) R. Sant. – GO (Golubkov 1993, Tsurykau 2011), GR (Golubkov 2011, Yatsyna 2013d), MI (Yurchenko 2011), VI (Golubkov 1993, 2011): cal, cor, mus, sil, ter Fre, Qur, on *Cladonia* spp.
224. **Diploschistes scruposus** (Schreb.) Norman – GO (Savicz 1911, Palamarchuk et al. 1975, Golubkov 1992), GR (Bachmann & Bachmann 1920, Golubkov 1992, 1997), MI (Golubkov & Vynaev 1981, Golubkov 1992), VI (Kobzar 1983, Golubkov 1996): sil, ter.
225. **Diplotomma alboatrum** (Hoffm.) Flot. – GR (Golubkov 1987), MI (Yatsyna & Yurchenko 2013), VI (Kreyer 1913, Yatsyna 2011e): cal, cor Acn, Pot.
226. **Diplotomma epipolium** (Ach.) Arnold – GO (Kobzar 2006), VI (Kobzar 2006): sil.
227. **Dufourea ligulata** (Körb.) Frödén, Arup & Søchting – GR (Golubkov 2013a), MI (Golubkov 2013a): cor Bet, Pon.
228. **Enchylium bachmanianum** (Fink) Otálora, P. M. Jørg. & Wedin – GO (Tsurykau 2017c): ter.
229. **Enchylium limosum** (Ach.) Otálora, P. M. Jørg. & Wedin – GO (Golubkov 2006), MI (Golubkov 2006), VI (Bachmann & Bachmann 1920, Golubkov 1993, Yatsyna 2010d, Yurchenko 2011): mus, ter.
230. **Enchylium tenax** (Sw.) Gray – GO (Golubkov 2006), GR (Golubkov 2006, Yatsyna 2016c), MI (Golubkov 2006, Yatsyna 2010a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Golubkov 1996, Yatsyna 2010c, 2010d): mus, ter.
231. **Endocarpon pusillum** Hedw. – VI (Golubkov 1993), MI (Yatsyna 2010a): mus, ter.
232. **Evernia divaricata** (L.) Ach. – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Bely 2011a), GO (Golubkov 1992, Kravchuk 2000), MI (Bachmann & Bachmann 1920, Gorbach 1965d, Golubkov & Vynaev 1981, Golubkov & Yesis 1997a, Yatsyna 2010h, Yatsyna 2013e), MO (Savicz & Savicz 1924), VI (Kreyer 1913, Gorbach 1965d, Gorbach & Mashenkova 1967, Golubkov 1987, 1992, Bely 2008b, Yatsyna 2009e), no exact locality (Tomin 1937, Gorbach 1962, Golubkov 1992, Kravchuk 2001): cor Acp, Aln, Bet, Pic, Pin, Sal.
233. **Evernia mesomorpha** Nyl. – BR (Bely 2011b, Yatsyna 2013a), GO (Savicz 1911, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Kravchuk 2001, Tsurykau 2005, Kobzar 2006, Tsurykau & Khranchankova 2008, Tsurykau et al. 2009, 2013b, Bely 2011a, Tsurykau & Tsurikova 2017), MI (Savicz 1925, Gorbach 1961, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna 2009d, 2010a, 2010f, 2013a, Bely 2011a, 2012c), MO (Kreyer 1913, Savicz 1925, Yatsyna 2004, 2009b, 2012a, 2013a), VI (Kreyer 1913, Gorbach 1965d, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2017, Bely & Golubkov 2009b, Yurchenko 2011, Bely 2011a), no exact locality (Gorbach 1956, Golubkov 1992): cor, lig, ter Acp, Aln, Bet, Car, Fre, Pic, Pin, Pot, Qur, Sal, Sor, Til.
234. **Evernia prunastri** (L.) Ach. – BR (Tessendorff 1922, Golubkov 1987, Kobzar 2006, Bely 2011a, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Palamarchuk et al. 1975, Gorbach & Getko 1978, Golubkov & Vynaev 1981, Kravchuk 2000, 2001, Tsurykau 2004, 2005, 2010, Timoshenkova & Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khranchankova 2008, 2010a, 2015, Tsurykau et al. 2009, 2012b, 2013b, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Kobzar

- 2006, Andreeva et al. 2006, Yatsyna 2010g, 2013a, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Kravchuk & Kakareka 1995, Kobzar 1997, Chernyshov 2003, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, Kobzar 2006, Bely 2010c, 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013), MO (Downar 1861, Kreyer 1913, Savicz & Savicz 1924, Savicz 1925, Kravchuk & Kakareka 1998, Yatsyna 2004, 2009b, Kobzar 2006, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Gorbach et al. 1982, Insarov & Pchelkin 1982, Golubkov 1991, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, 1973b, Yatsyna 2009e): cor, fol, lig, sil Acd, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Coa, Fre, Jun, Lar, Mal, Pce, Pdi, Pdo, Pic, Pin, Poa, Pob, Poc, Pon, Pot, Ppa, Pyr, Qup, Qur, Sal, Sor, Til, Ulm, on *Lobaria pulmonaria*.
235. **Felipes leucopellaeus** (Ach.) Frisch & G. Thor – GR (Golubkov 1987), MI (Yatsyna 2014a), MO (Tomin 1956), VI (Yatsyna 2010c, Yurchenko 2011): cor Aln, Fre, Til.
236. **Fellhanera bouteillei** (Desm.) Vězda – GR (Bely & Golubkov 2012), MI (Bely 2011a, Yatsyna 2012d), MO (Savicz & Savicz 1924, Bely 2011a), VI (Bely 2011a, Yatsyna 2011e, 2017): cor, fol Pic.
237. **Fellhanera gyrophorica** Sérus., Coppins, Diederich & Scheid. – BR (Golubkov & Kukwa 2006), GR (Yatsyna 2016c), MI (Yatsyna 2014a), VI (Yatsyna 2017): cor Acp, Aln, Qur.
238. **Fellhanera subtilis** (Vězda) Diederich & Sérus. – BR (Yatsyna & Motiejūnaite 2015), GR (Yatsyna 2016c), MI (Bely 2011a, Yatsyna & Motiejūnaite 2015), VI (Yatsyna 2011a, Gapienko et al. 2014, Yatsyna 2017): cor, fol, mus Pic, Vac.
239. **Flavoparmelia caperata** (L.) Hale – BR (Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Palamarchuk et al. 1975, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Golubkov 1987, 2011, Tsurykau 2004, 2005, 2017a, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2010a, 2015, Tsurykau et al. 2009, 2013b, Bely 2010a, 2011a, Yurchenko 2011, Yatsyna 2014d), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 1992, 2014a, Yatsyna 2016c), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1987, 1992, Kobzar 2006, Yatsyna 2006a, 2014a, 2015c, Bely 2010c, Golubkov et al. 2013), MO (Kreyer 1913, Savicz & Savicz 1924, Savicz 1925, Kobzar 2006, Yatsyna 2009b, 2012a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Gorbach 1978, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2010c, 2010d), no exact locality (Gorbach 1956, 1957, Golubkov 1992, Yatsyna 2009e): cor, mus Acp, Aln, Bet, Car, Coa, Fre, Pic, Pin, Pot, Qup, Qur, Sal, Sor, Til, Ulm.
240. **Flavoplaca citrina** (Hoffm.) Arup, Frödén & Söchting – GO (Tsurykau & Khramchankova 2011a), GR (Golubkov 1987, 1992, Yatsyna 2016c), MI (Yatsyna & Golubkov 2009, Yatsyna 2012b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013), VI (Golubkov 1987, 1991, 1992), no exact locality (Golubkov 1992): cal.
241. **Flavoplaca flavocitrina** (Nyl.) Arup, Frödén & Söchting – GO (Tsurykau & Kondratyuk 2011), GR (Yatsyna 2016c): cal.
242. **Fuscidea arboricola** Coppins & Tønsberg – GO (Tsurykau et al. 2014a): cor Pin.
243. **Fuscidea pusilla** Tønsberg – GO (Tsurykau et al. 2016a): cor Pin.
244. **Graphis scripta** (L.) Ach. – BR (Golubkov 1987, Kobzar 2006, Bely 2012b, 2016a, Yatsyna 2014d, Bely & Kudin 2016), GO (Savicz 1911, Wyssotzky et al. 1925, Ges 1960, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Tsurykau 2004, 2005, Golubkov et al. 2007a, Bely & Golubkov 2009a, Tsurykau et al. 2009, Bely 2010a, 2011a, Yurchenko 2011, Golubkov 2011), GR (Gilibert 1792, Golubkov 1987, 2014a, Kobzar 2006, Yatsyna 2010g, 2016c, Yurchenko 2011, Bely 2011a), MI (Bachmann & Bachmann 1920, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Yatsyna 2005, 2010a, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c,



- Kobzar 2006, Bely 2010c, 2011a, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Kobzar 2006, Yatsyna 2009b, 2012a, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Kobzar 2006, Yatsyna 2008, 2010c, 2010d, 2011a, 2011e, 2017, Bely & Golubkov 2009a, Yurchenko 2011, Bely 2011a), no exact locality (Gorbach 1956, 1957): cor Abi, Acp, Aln, Bet, Car, Coa, Fre, Pot, Qur, Sal, Sor, Til, Ulm.
245. **Gyalecta derivata** (Nyl.) H. Olivier – GO (Golubkov & Gagarina 2010): cor Pon, Sal.
  246. **Gyalecta truncigena** (Ach.) Hepp – GR (Makarevich 1960), VI (Yatsyna 2017): cor Pot.
  247. **Gyalecta fagicola** (Hepp) Kremp. – MI (Yatsyna 2012c): cor Acp.
  248. **Gyalolechia flavorubescens** (Huds.) Söchting, Frödén & Arup – GR (Yatsyna 2013d), VI (Bely 2015b): cor Pot.
  249. **Gyalolechia flavovirescens** (Wulfen) Söchting, Frödén & Arup – GO (Golubkov 2007, Tsurykau & Khranchankova 2010b), GR (Yatsyna 2016c), MI (Golubkov & Vynaev 1981, Yatsyna 2014a), VI (Kreyer 1913, Gapienko et al. 2014): cal, sil.
  250. **Haematomma ochroleucum** (Neck.) J.R. Laundon – VI (Insarov & Pchelkin 1982): cor Qur.
  251. **Hazslinszkya gibberulosa** (Ach.) Körb. – GO (Tsurykau & Khranchankova 2009b), no exact locality (Makarevich 1977b): cor Acp.
  252. **Hertelidea botryosa** (Fr.) Printzen & Kantvilas – VI (Insarov & Pchelkin 1982): cor Pin.
  253. **Heterodermia speciosa** (Wulfen) Trevis. – VI (Kreyer 1913, Bely & Golubkov 2009b): cor, mus Acp, Pot. – Note: The report of this species by Golubkov and Kobzar (1996) is erroneous following Bely and Golubkov (2009b).
  254. **Hydropunctaria rheitrophila** (Zschacke) C. Keller, Gueidan & Thüs – (Yatsyna 2013f): sil.
  255. **Hypocenomyce scalaris** (Ach. ex Lilj.) M. Choisy – BR (Golubkov 1987, Kobzar 2006, Bely 2011a, 2012a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Ges 1960, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Kravchuk 2001, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khranchankova 2008, 2015, Tsurykau et al. 2009, 2012b, Bely 2010a, 2011a, Yurchenko 2011, Golubkov 2011, Sobchanka et al. 2012, Yatsyna 2014d, Tsurykau & Czarnota 2014, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Kravchuk 2001, Kobzar 2006, Yatsyna 2010g, Bely 2011a), MI (Bachmann & Bachmann 1920, Golubkov & Vynaev 1981, Kravchuk & Kakareka 1995, Kobzar 1997, 2006, Yatsyna 2005, 2009d, 2010a, 2010f, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Kravchuk & Kakareka 1998, Yatsyna 2004, 2009b, 2012a, 2013a, Kobzar 2006, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1978, Insarov & Pchelkin 1982, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010f, 2011a, Bely 2011a): cor, lig Aln, Bet, Car, Lar, Pic, Pin, Pon, Pot, Qup, Qur, Til.
  256. **Hypogymnia farinacea** Zopf – BR (Golubkov 1985, 1987), GO (Tsurykau 2017c), GR (Bachmann & Bachmann 1920), MI (Golubkov et al. 2007b), VI (Golubkov & Kobzar 2007, Golubkov et al. 2007b): cor, lig Aln, Bet, Pin, Qur.
  257. **Hypogymnia physodes** (L.) Nyl. – BR (Tessendorff 1922, Suza 1928, Krawiec 1938, Golubkov 1987, Busko et al. 1995, Sidorovich & Gorbach 1998, Yurchenko & Golubkov 2003, Kobzar 2006, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1909, 1911, Kreyer 1913, Ljubitskaja 1914, Wyssotzky et al. 1925, Ges 1960, Palamarchuk et al. 1975, Gorbach & Getko 1978, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Kiselev et al. 1986, Busko et al. 1995, Kravchuk 2000, 2001, Yurchenko & Golubkov 2003, Tsurykau 2004, 2005, 2010, Timoshenkova & Tsurykau 2005, Kobzar 2006, Golubkov et

- al. 2007a, Tsurykau & Khranchankova 2008, 2010a, 2014, 2015, Tsurykau et al. 2009, 2012b, 2013b, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Tsurykau & Czarnota 2014), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Gorbach & Getko 1978, Golubkov 1987, 2014a, Busko et al. 1995, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2005, Kobzar 2006, Andreeva et al. 2006, Valko 2008, Yatsyna 2010g, 2013a, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, 1961, Boiko et al. 1981, Golubkov & Vynaev 1981, Kiselev et al. 1983, Shukanov et al. 1986, Golubkov & Rykovsky 1988, Busko et al. 1995, Kravchuk & Kakareka 1995, Vyazovskaya & Golubkov 1997, Kobzar 1997, 2006, Yurchenko & Golubkov 2003, Chernyshov 2003, 2004a, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013a, 2013c, 2014a, 2014b, 2015c, Mavrishev & Dyukova 2008a, Bely 2010c, 2011a, Yurchenko 2011, Bely & Patapovich 2012, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Kreyer 1913, Savicz & Savicz 1924, Savicz 1925, Busko et al. 1995, Kravchuk & Kakareka 1998, Yatsyna 2004, 2009b, 2012a, 2013a, Kobzar 2006, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Gorbach & Getko 1978, Insarov & Pchelkin 1982, Kiselev et al. 1986, Golubkov 1991, Busko et al. 1995, Yurchenko & Golubkov 2003, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010f, 2011a, 2013a, 2017, Bely & Golubkov 2008, Yurchenko 2011, Bely 2011a), no exact locality (Gorbach 1956, 1973b, Belomesyatseva 2004, Yatsyna 2009e): cal, cor, fol, lig, mus, sil, ter Abi, Acp, Acs, Act, Ahi, Aln, Bet, Car, Coa, Fre, Jun, Mal, Pce, Pdo, Pic, Pin, Poa, Pob, Poc, Pon, Pot, Ppa, Pyr, Qup, Qur, Sal, Sor, Til, Ulm, on *Lobaria pulmonaria*.
258. **Hypogymnia tubulosa** (Schaer.) Hav. – BR (Golubkov 1987, Bely 2011a, 2011b, Bely & Kudin 2016), GO (Savicz 1911, Golubkov & Vynaev 1981, Golubkov et al. 2007a, Tsurykau & Khranchankova 2007, 2008, 2010a, 2015, Tsurykau et al. 2009, 2013b, Bely 2010a, 2011a, Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov et al. 2007b, Yatsyna 2010g, 2013a, Bely 2011a, Golubkov 2014a), MI (Gorbach 1955, Golubkov & Vynaev 1981, Kobzar 2006, Bely 2010c, 2011a, Yurchenko 2011, Yatsyna 2012c, 2013c, 2014a, 2015c, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b, 2010a, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Insarov & Pchelkin 1982, Golubkov 1991, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, 2017, Bely & Golubkov 2008, Yurchenko 2011, Bely 2011a), no exact locality (Tomin 1937, Gorbach 1956, 1957, Yatsyna 2009e): cor, lig, sil Acp, Acs, Aln, Bet, Car, Coa, Mal, Pdo, Pic, Pin, Pon, Pot, Ppa, Pyr, Qup, Qur, Sal, Sor, Til, Ulm.
259. **Hypogymnia vittata** (Ach.) Parrique – GR (Bachmann & Bachmann 1920), MI (Gorbach 1962), MO (Savicz 1925, Yatsyna 2004), VI (Insarov & Pchelkin 1982, Kravchuk 2001, Yatsyna 2013a, 2017): cor Aln, Bet, Pic, Pin.
260. **Hypotrachyna revoluta** (Flörke) Hale – BR (Tsurykau et al. 2015), GO (Tsurykau et al. 2015), GR (Tsurykau et al. 2015), MI (Tsurykau et al. 2015), VI (Tsurykau et al. 2015): cor Aln, Bet, Car, Pic, Pot, Qur, Sor. – Note: Only records of *H. revoluta* published subsequent to Tsurykau et al. (2015) are included here as the species was historically confused with *H. afrorevoluta*. Earlier reports could refer to either species and require confirmation via examination of the supporting vouchers.
261. **Hypotrachyna afrorevoluta** (Krog & Swinscow) Krog & Swinscow – BR (Tsurykau et al. 2015), GO (Tsurykau et al. 2015), GR (Tsurykau et al. 2015), MI (Tsurykau et al. 2015), VI (Tsurykau et al. 2015): cor Aln, Bet, Qur.
262. **Icmadophila ericetorum** (L.) Zahlbr. – BR (Błoński 1888), GO (Golubkov 1992), GR (Gilibert 1781, Błoński 1889), MI (Savicz & Savicz 1924, Savicz 1925, Golubkov 1987, 1992, Bely & Golubkov 2008), MO (Savicz 1925), VI (Kobzar 2006, Bely & Golubkov 2008, Bely 2011a): lig, mus, ter Qur.
263. **Imshaugia aleurites** (Ach.) S.F. Mey. – BR (Golubkov 1987, Bely 2011a, Yatsyna 2013a, Tsurykau et al. 2013b, Bely & Kudin 2016), GO (Ges 1960, Golubkov & Vynaev 1981, Golubkov 1992, 2007, Kravchuk 2001, Golubkov et al. 2007b, Tsurykau & Khranchankova 2007, Tsurykau et al. 2009, 2013b, Bely 2010a, 2011a, Yurchenko 2011, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, 2014a, Golubkov et al. 2007b, Yatsyna 2010g, Bely 2011a), MI (Savicz 1925, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna 2005, 2009d, 2010a, 2013a, 2015c, Bely 2010c, 2011a), MO (Savicz 1925, Yatsyna 2004, 2009b, 2013a), VI (Kreyer 1913, Gorbach 1965d, Insarov & Pchelkin 1982,



- Golubkov 1991, 1992, Kravchuk 2001, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010f, 2011a, 2013a, 2017, Bely 2011a), no exact locality (Tomin 1937, Gorbach 1965d, Yatsyna 2009e): cor, lig Aln, Bet, Jun, Pic, Pin, Pot.
264. **Inoderma byssaceum** (Weigel) Gray – BR (Yatsyna 2014d), GR (Tomin 1956, Yatsyna 2016c), MI (Yatsyna 2014a, 2015c), MO (Kobzar 2006), VI (Yatsyna 2011e), no exact locality (Gorbach 1962): cor Acp, Qur, Til.
  265. **Jamesiella anastomosans** (P. James & Vězda) Lücking, Sérus. & Vězda – MO (Yatsyna & Motiejūnaite 2015): lig.
  266. **Lathagrium auriforme** (With.) Otálora, P.M. Jørg. & Wedin – VI (Bachmann & Bachmann 1920): ter.
  267. **Lathagrium cristatum** (L.) Otálora, P.M. Jørg. & Wedin – GR (Yatsyna 2015d): cal.
  268. **Lecania cyrtella** (Ach.) Th. Fr. – BR (Bely 2011a, Yatsyna 2014d), GO (Savicz 1911, Wyssotzky et al. 1925, Tsurykau & Khramchankova 2009b, Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov & Khartanovich 2005, Golubkov 2014a), MI (Savicz 1925, Gorbach 1955, 1965b, Chernyshov 2003, Yurchenko 2011, Yatsyna 2012b, 2013b, 2013c, 2014a, 2014b, 2015c, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Savicz & Savicz 1924, Savicz 1925), VI (Kreyer 1913, Yatsyna 2011a, 2011e, 2017, Bely 2011a), no exact locality (Gorbach 1956, Makarevich 1960): cor, lig Acp, Ahi, Aln, Bet, Fre, Pot, Qur, Til.
  269. **Lecania cyrtellina** (Nyl.) Sandst. – GO (Golubkov 2011), MI (Yatsyna 2012d): cor Aln, Pot, Qur, Sal.
  270. **Lecania dubitans** (Nyl.) A. L. Sm. – BR (Golubkov 1987), GO (Savicz 1911, Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a), MI (Savicz 1925, Gorbach 1955, 1965b, Golubkov & Vynaev 1981), MO (Savicz & Savicz 1924, Savicz 1925), VI (Kreyer 1913, Kobzar 2006), no exact locality (Gorbach 1956, Makarevich 1960): cor Aln, Bet, Car, Pon, Pot, Pyr, Qup, Sal.
  271. **Lecania erysibe** (Ach.) Mudd – MI (Yatsyna 2012d): cal.
  272. **Lecania fuscella** (Schaer.) Körb. – VI (Kreyer 1913), MI (Gorbach 1955): cor, lig Pot.
  273. **Lecania hutchinsiae** (Nyl.) A.L. Sm. – VI (Yatsyna 2013f): cor Aln.
  274. **Lecania koerberiana** J. Lahm – GO (Savicz 1911, Wyssotzky et al. 1925, Golubkov 2011), MI (Savicz 1925, Gorbach 1955), MO (Savicz 1925): cor Pot.
  275. **Lecania naegelii** (Hepp) Diederich & van den Boom – GO (Savicz 1910, Golubkov 1992, Golubkov et al. 2007a), GR (Golubkov 1987, Golubkov & Khartanovich 2005), MI (Gorbach 1955, Golubkov & Yesis 1997b, Kobzar 2006, Bely 2011a, Bely & Nikolaichuk 2012, Yatsyna 2012c, 2014a, Yatsyna & Yurchenko 2013), MO (Kreyer 1913), VI (Golubkov 1992, Gapienko et al. 2014): cor Acp, Coa, Fre, Pic, Pot, Qur, Sal.
  276. **Lecania sylvestris** (Arnold) Arnold – GR (Yatsyna 2016c), MI (Yatsyna 2012d): cal.
  277. **Lecanora albella** (Pers.) Ach. – BR (Golubkov 1987, Kobzar 2006), GO (Savicz 1911, Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Golubkov 1992), GR (Bachmann & Bachmann 1920), MI (Bachmann & Bachmann 1920, Gorbach 1955, 1965b, Golubkov 1987, 1992), MO (Savicz 1925), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2010c), no exact locality (Gorbach 1956): cor Acp, Aln, Bet, Car, Fre, Pin, Pot, Qur, Sal, Sor, Til.

278. **Lecanora albellula** Nyl. – GO (Tsurykau & Khramchankova 2007, Golubkov 2011), GR (Bachmann & Bachmann 1920, Makarevich 1960): cor Pic, Pin.
279. **Lecanora allophana** Nyl. f. **allophana** – BR (Golubkov 1987, Kobzar 2006, Yatsyna 2013a, Bely 2016a, Bely & Kudin 2016), GO (Savicz 1909, Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Kravchuk 2001, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2009a, Tsurykau et al. 2009, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Yatsyna 2014d), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, 2005, Yatsyna 2010g, 2016c), MI (Savicz 1909, Bachmann & Bachmann 1920, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Golubkov 1992, Kravchuk & Kakareka 1995, Kobzar 1997, 2006, Kravchuk 2001, Chernyshov 2003, 2004a, Yatsyna 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk 2001, Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Insarov & Pchelkin 1982, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Bely 2015b), no exact locality (Gorbach 1956, 1957, Golubkov 1992): cor Acn, Acp, Aln, Bet, Car, Euo, Fre, Pic, Pin, Poc, Pon, Pot, Qur, Sal, Sor, Til, Ulm. f. **sorediata** Vain. – GO (Golubkov 2011): cor Qur. – Note: The report on calcareous stone by Yatsyna (2005) likely refers to another taxon and the supporting voucher should be reexamined.
280. **Lecanora argentata** (Ach.) Malme – BR (Gorbach 1970, Golubkov 1987, 2011, Yurchenko & Golubkov 2003), GO (Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Kobzar 2006, Tsurykau & Khramchankova 2007, Golubkov 2011, Yatsyna 2013a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yurchenko & Golubkov 2003, Golubkov & Khartanovich 2004b, 2005), MI (Bachmann & Bachmann 1920, Gorbach 1955, 1965b, Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 1997, 2006, Chernyshov 2004a, Yatsyna 2005), MO (Savicz 1925), VI (Gorbach 1978, Insarov & Pchelkin 1982, Golubkov 1992, Kobzar 2006, Yurchenko 2011, Bely 2011a), no exact locality (Makarevich 1960, Golubkov 1992): cor, lig Acn, Acp, Aln, Bet, Car, Coa, Fre, Lon, Pic, Pin, Pon, Pot, Qup, Qur, Sor, Til.
281. **Lecanora carpinea** (L.) Vain. – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2014d, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Kravchuk 2001, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2007, 2009a, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Andreeva et al. 2006, Yatsyna 2010g, 2016c, Yurchenko 2011, Bely 2011a, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 1997, 2006, Kravchuk 2001, Chernyshov 2003, 2004a, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2010c, 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Kravchuk 2001, Kobzar 2006, Yatsyna 2009b, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1978, Insarov & Pchelkin 1982, Golubkov 1991, 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, Yurchenko 2011, Bely 2011a), no exact locality (Gorbach 1956, 1957, 1962, Golubkov 1992): cor, lig Abi, Acp, Ahi, Aln, Bet, Car, Coa, Fre, Mal, Pce, Pic, Pin, Poa, Pon, Pot, Ppa, Pse, Pyr, Sal, Sor, Til, Qur, Ulm.
282. **Lecanora chlarotera** Nyl. – BR (Gorbach 1970, Golubkov 1987, Kobzar 2006, Yatsyna 2014d), GO (Golubkov & Vynaev 1981, Golubkov 1992, 2007, 2011, Kravchuk 2001, Kobzar 2006, Tsurykau & Khramchankova 2007), GR (Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, 2004b, 2005, Yatsyna 2010g), MI (Gorbach 1955, 1961, 1965b, 1970, Tomin 1956, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, 2004a, Yatsyna 2005, 2010a, 2012b, 2013b, 2014a, 2014b, 2015c, Kobzar 2006, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Gorbach 1970, Yatsyna 2009b, 2013a), VI (Gorbach & Mashenkova 1967, Gorbach 1978, Insarov & Pchelkin 1982, Golubkov 1991, 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2010c, 2017), no exact locality (Gorbach 1956, 1957, 1962, Golubkov 1992): cor Acp, Ahi, Aln, Bet, Car, Fre, Lon, Pic, Pin, Pon, Pot, Ppa, Qur, Sal, Sor, Til, Ulm.



283. **Lecanora compallens** van Herk & Aptroot – GO (Tsurykau et al. 2014a, Tsurykau & Czarnota 2014, Tsurykau & Khramchankova 2015, Tsurykau & Tsurikova 2017): cor Acp, Pin.
284. **Lecanora conizaeoides** Nyl. ex Cromb. – BR (Golubkov 1987), GO (Tsurykau & Khramchankova 2007), GR (Golubkov & Khartanovich 2004a), MI (Shukanov et al. 1986, Yatsyna 2013c): cor, lig Aln, Poc.
285. **Lecanora expallens** Ach. – BR (Gorbach 1973b), GO (Golubkov 1992, Kravchuk 2000, 2001, Tsurykau & Khramchankova 2015), MI (Shukanov et al. 1986, Kravchuk & Kakareka 1995, Kobzar 2006), MO (Kravchuk & Kakareka 1998), VI (Gorbach 1973b, Golubkov & Kobzar 1996), no exact locality (Tomin 1956, Gorbach 1962): cor Aln, Bet, Pin, Poc.
286. **Lecanora glabrata** (Ach.) Malme – BR (Golubkov 1987), GO (Wyssozky et al. 1925, Ges 1960, Golubkov 1992), GR (Golubkov 1987, Yatsyna 2016c), MI (Kobzar 2006), MO (Savicz & Savicz 1924, Savicz 1925), VI (Golubkov 1992), no exact locality (Gorbach 1956, 1973b, Golubkov 1992): cor Acp, Car, Coa, Fre.
287. **Lecanora impudens** Degel. – BR (Golubkov 1987, Yurchenko 2011), GO (Golubkov 1992), GR (Golubkov 1987, 1992, Yurchenko 2011), MI (Golubkov 1992, Golubkov & Yesis 1997b), VI (Insarov & Pchelkin 1982): cor Aln, Bet, Pin, Pot, Ppa.
288. **Lecanora intumescens** (Rebent.) Rabenh. – GO (Golubkov 2011), GR (Bachmann & Bachmann 1920), VI (Golubkov 1992): cor Aln, Qur.
289. **Lecanora leptyroides** (Nyl.) G.B.F. Nilsson – BR (Gorbach 1973b), MI (Gorbach 1955, 1973b, Tomin 1956), VI (Gorbach & Mashenkova 1967, Gorbach 1973b, Kobzar 2006), no exact locality (Gorbach 1962): cor Aln, Bet, Pic, Pot, Qur, Til, Ulm.
290. **Lecanora phaeostigma** (Körb.) Almb. – GO (Golubkov 2011), GR (Bachmann & Bachmann 1920), VI (Golubkov 1992): cor Pin.
291. **Lecanora polytropia** (Hoffm.) Rabenh. – BR (Golubkov 1987), GO (Golubkov & Vynaev 1981), GR (Bachmann & Bachmann 1920, Yatsyna 2016c), MI (Oksner 1925, Golubkov & Vynaev 1981, Golubkov 1997, Chernyshov 2003), MO (Savicz 1925), VI (Kreyer 1913, Bachmann & Bachmann 1920, Golubkov 1992, Yurchenko 2011): sil.
292. **Lecanora populicola** (DC.) Duby – BR (Golubkov 1987), GO (Savicz 1911, Wyssozky et al. 1925, Ges 1960, Golubkov 1992, 2011, Tsurykau & Khramchankova 2007), GR (Andreeva et al. 2006, Yurchenko 2011, Golubkov 2014a), MI (Gorbach 1955, 1965b, Golubkov 1992), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Gorbach 1978, Yatsyna 2017), no exact locality (Gorbach 1956, 1957, 1973b): cor Acp, Aln, Bet, Car, Pot, Qur, Sal, Sor.
293. **Lecanora pulicaris** (Pers.) Ach. – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Bely 2011a, 2012b), GO (Savicz 1911, Kreyer 1913, Golubkov & Vynaev 1981, Golubkov 1992, Kravchuk 2001, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2007, 2015, Bely 2011a, Tsurykau et al. 2012b, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Yatsyna 2010g, Bely 2011a, Golubkov 2014a), MI (Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov 1992, Kravchuk & Kakareka 1995, Kobzar 1997, 2006, Kravchuk 2001, Chernyshov 2003, 2004a, Yatsyna 2009d, 2012b, 2013b, 2014a, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Kobzar 2006, Yatsyna 2004, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Gorbach 1973b, 1978, Insarov & Pchelkin 1982, Golubkov 1991, 1992, Kobzar 2006, Golubkov & Kobzar 2007, Bely 2011a, Yatsyna 2017): cor, lig Acp, Aln, Bet, Fre, Jun, Pic, Pin, Pot, Pyr, Qup, Qur, Sal, Sor.
294. **Lecanora rupicola** (L.) Zahlbr. – BR (Golubkov 1987), GR (Golubkov 1992), MI (Golubkov 1987), VI (Golubkov 1987, Yatsyna 2011e): sil.

295. **Lecanora saligna** (Schr.) Zahlbr. – VI (Yatsyna 2011a): lig. – Note: The reports of *Lecanora saligna* (Schr.) Zahlbr. prior to Yatsyna (2011a) probably do not belong to that species as they were collected on *Alnus glutinosa* bark, and have a positive K<sup>+</sup> yellow reaction (Gorbach 1970, Golubkov 2011). This species has negative spot reactions and is confined to lignum (Edwards et al. 2009). The specimens that serve as the basis for earlier reports should be reexamined to determine their current taxonomic status.
296. **Lecanora thysanophora** R.C. Harris – GO (Golubkov & Kukwa 2006, Tsurykau & Tsurikova 2017), GR (Golubkov & Kukwa 2006): cor Ahi, Aln, Qur, Til.
297. **Lecanora umbrina** (Ach.) A. Massal. – BR (Golubkov 1987), GO (Savicz 1909, Golubkov 1992), GR (Golubkov & Khartanovich 2004b), MI (Golubkov & Yesis 1997b, Chernyshov 2004a, Yatsyna 2013c), MO (Savicz & Savicz 1924, Savicz 1925), VI (Bachmann & Bachmann 1920, Kreyer 1913, Golubkov 1992): cal, cor, lig Aln, Pot, Sal, Sor.
298. **Lecanora varia** (Hoffm.) Ach. – BR (Suza 1928, Krawiec 1938, Golubkov 1987, Kobzar 2006, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1910, Wysotsky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2009a, Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1965b, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna 2009d, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2015c, Bely 2011a), MO (Savicz 1925, Yatsyna 2009b, 2012a, 2013a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Golubkov 1991, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, 2017): cor, lig Aln, Bet, Car, Lar, Mal, Pic, Pin, Pot, Pyr, Til, Qur, Sal.
299. **Lecidea fuscoatra** (L.) Ach. – BR (Golubkov 1987), GR (Yatsyna 2016c), MI (Golubkov et al. 2013), VI (Golubkov 1997): sil.
300. **Lecidea nylanderii** (Anzi) Th. Fr. – GO (Tsurykau 2013b, Tsurykau & Czarnota 2014, Tsurykau & Khramchankova 2015), VI (Insarov & Pchelkin 1982): cor Pin.
301. **Lecidea sphaerella** Hedl. – MI (Kobzar 2006), VI (Golubkov 1992): cor Pot.
302. **Lecidea turgidula** Fr. – MI (Yatsyna 2013a), no exact locality (Tomin 1939): lig.
303. **Lecidella anomaloides** (A. Massal.) Hertel & H. Kiliass – GO (Golubkov 2007), GR (Yurchenko 2011), MI (Golubkov & Vynaev 1981, Chernyshov 2003), VI (Bachmann & Bachmann 1920, Yurchenko 2011): sil.
304. **Lecidella carpathica** Körb. – VI (Kreyer 1913): sil.
305. **Lecidella elaeochroma** (Ach.) M. Choisy – BR (Bely 2011a, 2011b, Yatsyna 2013a, 2014d), GO (Golubkov et al. 2007a, Tsurykau & Khramchankova 2009a, Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov & Khartanovich 2004a, 2004b, 2005, Golubkov 2014a, Yatsyna 2013a, 2016c), MI (Bachmann & Bachmann 1920, Yatsyna 2010a, 2012b, 2012c, 2013a, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Bely 2011a, Yatsyna 2013a), VI (Bachmann & Bachmann 1920, Yurchenko 2011, Bely 2011a, Yatsyna 2013a, 2011e, 2017): cor Abi, Acp, Aln, Bet, Fre, Pic, Pon, Pot, Ppa, Pyr, Qur, Sor, Til, Pot.
306. **Lecidella euphorea** (Flörke) Hertel – BR (Suza 1928, Kobzar 2006, Bely 2011a, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wysotsky et al. 1925, Ges 1960, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Kravchuk 2001, Kobzar 2006, Tsurykau & Khramchankova 2009a, Tsurykau et al. 2009, Bely 2010a, 2011a, Tsurykau & Tsurikova 2017), GR (Golubkov & Khartanovich 2004a, Yurchenko 2011, Bely 2011a), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Kravchuk & Kakareka 1995, Kobzar 1997, 2006, Chernyshov 2003, 2004a, Yatsyna 2005, Bely 2011a, Bely & Nikolaichuk 2012), MO (Savicz 1925, Kravchuk 2001, Kobzar 2006, Yatsyna 2009b, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1991, Kobzar 2006, Yatsyna 2008, 2010c, Bely



2011a), no exact locality (Gorbach 1956, 1957): cor, lig Acp, Aln, Bet, Car, Coa, Fre, Pic, Poa, Poc, Pon, Pot, Qur, Sal, Sor, Til, Ulm.

307. **Lecidella flavosorediata** (Vězda) Hertel & Leuckert – VI (Gapienko et al. 2014): cor Fre.
308. **Lecidella laureri** (Hepp) Körb. – BR (Golubkov 1987), GR (Golubkov 1987), MI (Golubkov 1987): cor, lig Car, Fre, Pot.
309. **Lecidella stigmathea** (Ach.) Hertel & Leuckert – GR (Yatsyna 2016c), MI (Gorbach 1970), VI (Kreyer 1913): cal, sil.
310. **Leimonis erratica** (Körb.) R. C. Harris & Lendemer – BR (Golubkov 1987), GR (Bachmann & Bachmann 1920), VI (Bachmann & Bachmann 1920): sil.
311. **Lepra albescens** (Huds.) Hafellner – BR (Tessendorff 1922, Golubkov 1987, Kobzar 2006, Bely 2011a, Bely & Kudin 2016), GO (Savicz 1909, Wyssotzky et al. 1925, Ges 1960, Gorbach 1973b, Golubkov & Vynaev 1981, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2009a, Tsurykau et al. 2009, Bely 2010a, 2011a, Golubkov 2011, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Gorbach 1973b, Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, Bely 2011a), MI (Bachmann & Bachmann 1920, Gorbach 1961, 1965c, 1973b, Golubkov & Vynaev 1981, Chernyshov 2003, Yatsyna 2005, 2010a, 2013b, 2013c, 2014a, 2014b, 2015c, Kobzar 2006, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Gorbach 1978, Yatsyna 2008, 2010c, 2017, Bely 2011a), no exact locality (Gorbach 1973b, Yatsyna 2009e): cal, cor, mus Acp, Aln, Bet, Car, Fre, Pic, Pot, Qur, Sal, Sor, Til, Ulm.
312. **Lepra amara** (Ach.) Hafellner – BR (Golubkov 1987, Kobzar 2006, Yurchenko 2011, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1911, Wyssotzky et al. 1925, Ges 1960, Palamarchuk et al. 1975, Golubkov & Vynaev 1981, Kravchuk 2001, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau et al. 2009, Bely 2010a, 2011a, Golubkov 2011, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2016c, Bely 2011a), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Kravchuk & Kakareka 1995, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Kobzar 2006, Bely 2010c, 2011a, Yurchenko 2011, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b, 2012a, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Gorbach 1978, Insarov & Pchelkin 1982, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010a, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, 1973b): cor Acp, Aln, Bet, Car, Coa, Fre, Pic, Pin, Pot, Qur, Sal, Sor, Til, Ulm.
313. **Lepra multipuncta** (Turner) Hafellner – BR (Golubkov 1987), GO (Wyssotzky et al. 1925, Golubkov 2011, Tsurykau et al. 2016a), GR (Golubkov 1987), MI (Bachmann & Bachmann 1920), MO (Savicz 1925), VI (Golubkov 1987), no exact locality (Gorbach 1973b): cor, mus Aln, Bet, Car, Sor, Til.
314. **Lepra ophthalmiza** (Nyl.) Hafellner – VI (Golubkov 1992): not indicated.
315. **Lepra trachythallina** (Erichsen) Lendemer & R.C. Harris – GO (Wyssotzky et al. 1925), MO (Savicz 1925), VI (Gorbach 1973b, Golubkov 1992), no exact locality (Gorbach 1956, 1957): cor Bet, Car, Fre.
316. **Lepraria eburnea** J.R. Laundon – BR (Golubkov & Kukwa 2006, Tsurykau et al. 2016b), GR (Tsurykau et al. 2016b): cor, ter Aln, Qur. – Note: Only records of *L. eburnea* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
317. **Lepraria ecorticata** (J.R. Laundon) Kukwa – BR (Tsurykau et al. 2016b), GO (Tsurykau et al. 2016b), GR (Tsurykau et al. 2016b): cor Fre, Pot, Til. – Note: Only records of *L. ecorticata* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus

without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.

318. **Lepraria elobata** Tønsberg – BR (Tsurykau et al. 2016b), GO (Tsurykau & Khramchankova 2011a, 2015, Tsurykau et al. 2012b, 2016b, Tsurykau & Tsurikova 2017), GR (Czyżewska & Kukwa 2005, Tsurykau et al. 2014b, 2016b), MI (Golubkov & Kukwa 2006, Tsurykau et al. 2016b), MO (Tsurykau et al. 2016b), VI (Golubkov & Kukwa 2006, Tsurykau et al. 2016b): cor, lig Bet, Pic, Pin, Pot, Qur. – Note: Only records of *L. elobata* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
319. **Lepraria finkii** (B. de Lesd.) R.C. Harris – BR (Bely 2011a, Tsurykau et al. 2016b, Bely & Kudin 2016) GO (Bely 2010a, 2011a, Tsurykau 2013a, Tsurykau & Khramchankova 2015, Tsurykau et al. 2016b, Tsurykau & Tsurikova 2017), GR (Tsurykau et al. 2016b), MI (Bely 2011a, Tsurykau et al. 2016b), MO (Bely 2011a, Tsurykau et al. 2016b), VI (Bely 2011a, Tsurykau et al. 2016b): cor, cal, lig, ter Acp, Aln, Bet, Pic, Pin, Qur, Sor. – Note: Only records of *L. finkii* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
320. **Lepraria incana** (L.) Ach. – BR (Golubkov & Kukwa 2006, Tsurykau et al. 2016b, Bely & Kudin 2016), GO (Golubkov & Kukwa 2006, Tsurykau & Khramchankova 2011a, 2015, Tsurykau et al. 2012b, 2016b, Tsurykau & Tsurikova 2017), GR (Golubkov & Kukwa 2006, Tsurykau et al. 2014b, 2016b), MI (Czyżewska & Kukwa 2005, Tsurykau et al. 2016b), MO (Tsurykau et al. 2016b), VI (Tsurykau et al. 2016b): cor, lig Abi, Acp, Aln, Bet, Car, Coa, Pic, Pin, Pot, Pyr, Qur, Sor, Til. – Note: Only records of *L. incana* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
321. **Lepraria jackii** Tønsberg – BR (Golubkov & Kukwa 2006, Tsurykau et al. 2016b, Bely & Kudin 2016), GO (Tsurykau & Khramchankova 2011a, 2015, Tsurykau et al. 2012b, 2016b), GR (Golubkov & Kukwa 2006, Tsurykau et al. 2016b), MI (Golubkov & Kukwa 2006, Tsurykau et al. 2016b), MO (Tsurykau et al. 2016b), VI (Golubkov & Kukwa 2006, Tsurykau et al. 2016b): cor, lig Pic, Pin, Qur. – Note: Only records of *L. jackii* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
322. **Lepraria neglecta** (Nyl.) Erichsen – VI (Golubkov & Kukwa 2006): sil. – Note: Only records of *L. neglecta* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
323. **Lepraria rigidula** (B. de Lesd.) Tønsberg – GO (Tsurykau et al. 2016b): cor, ter Pin. – Note: Only records of *L. rigidula* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
324. **Lepraria vouauxii** (Hue) R.C. Harris – BR (Tsurykau et al. 2016b), GO (Tsurykau et al. 2014a, 2016b), GR (Tsurykau et al. 2014b): cor Acp, Aln, Fre, Mal, Qur. – Note: Only records of *L. vouauxii* published with TLC data are included here as the species cannot be distinguished with certainty from other members of the genus without chemical analysis. Reports based on specimens that were not explicitly stated to have been studied with TLC require verification.
325. **Leptogium cyanescens** (Rabenh.) Körb. – MI (Yatsyna 2013b), no exact locality (Golubkov & Kobzar 2005): cor Til.



326. **Leptogium rivulare** (Ach.) Mont. – GO (Golubkov 1992): cor, lig Qur, Sal.
327. **Leptogium saturninum** (Dicks.) Nyl. – GR (Błoński 1889), MI (Bachmann & Bachmann 1920), MO (Savicz & Savicz 1924, Savicz 1925), VI (Kreyer 1913, Yatsyna 2017): cor Acp, Ber, Pot.
328. **Leptorhaphis atomaria** (Ach.) Szatala – GR (Bachmann & Bachmann 1920), VI (Yatsyna 2011a): cor Qur, Pot.
329. **#Leptorhaphis epidermidis** (Ach.) Th. Fr. – GO (Savicz 1911, Golubkov 1992, Yurchenko 2011), GR (Bachmann & Bachmann 1920), MI (Gorbach 1973b, Yatsyna 2015c), VI (Kreyer 1913, Kobzar 1983, Golubkov & Kobzar 2007): cor Bet.
330. **Leptorhaphis lucida** Körb. – VI (Kreyer 1913), no exact locality (Gorbach 1962): cor Bet, Pot.
331. **Lichenomphalia umbellifera** (L.: Fr.) Redhead, Lutzoni, Monclavo & Vilgalys – BR (Serzhanina 1984), GO (Serzhanina 1984, Bely & Yatsyna 2013), MI (Kuprevich 1931, Serzhanina 1984, Yatsyna & Golubkov 2009, Bely 2011a), VI (Bely 2011a, Yatsyna 2011e, 2017, Bely & Yatsyna 2013): lig, mus, roo, ter Pic.
332. **Lobaria pulmonaria** (L.) Hoffm. – BR (Tessendorff 1922, Golubkov 1987, Golubkov & Yatsyna 2010, Yatsyna 2013e, 2015e), GO (Wyssotzky et al. 1925, Ges 1960, Palamarchuk et al. 1975, Golubkov & Vynaev 1981, Golubkov 1992, 2010, Tsurykau & Khramchankova 2006, Golubkov & Yatsyna 2010, Yatsyna 2011d, 2015e), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 1992, 2014a, Yatsyna 2013e), MI (Oksner 1924, Savicz 1925, Gorbach 1955, 1961, 1965b, Golubkov & Vynaev 1981, Yatsyna 2006a, Golubkov & Yatsyna 2010, Yatsyna 2010h, 2015e, Bely 2010b), MO (Meier 1901, Savicz & Savicz 1924, Savicz 1925, Golubkov 1987, 1992, Yatsyna 2009b, Golubkov & Yatsyna 2010), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov & Kobzar 2005, Bely 2008b, Golubkov & Yatsyna 2010, Yatsyna 2011a, 2013e, 2015e, 2017), no exact locality (Gorbach 1957, 1973b): cor, lig, ter Acp, Aln, Bet, Car, Coa, Fre, Pic, Pot, Qup, Qur, Sal, Til, Ulm.
333. **Lobaria scrobiculata** (Scop.) DC. – MO (Savicz & Savicz 1924), no exact locality (Gorbach 1956, 1957): cor Acp, Car, Pic, Sal, Ulm. – Note: *Lobaria scrobiculata* was also reported by Palamarchuk et al. (1975) from Pripyatsky national park. However the report did not include any specific data, and no voucher has been found in GSU. Therefore the report seems to be doubtful and it is not included in the present list.
334. **Loxospora elatina** (Ach.) A. Massal. – GO (Golubkov 2011), MI (Tomin 1956), VI (Tomin 1956, Golubkov & Kukwa 2006, Bely 2011a): cor Bet, Fre, Pic.
335. **Megalospora sanguinaria** (L.) A. Massal. – GR (Gilibert 1781, 1792), VI (Tomin 1956, Golubkov 1993, Golubkov & Kobzar 2007, Bely 2011a, Yatsyna 2011e): cor, lig Pin.
336. **Megaspora verrucosa** (Ach.) Hafellner & V. Wirth – MI (Gorbach 1962), VI (Kreyer 1913): cor Pot.
337. **Melanelixia glabra** (Schaer.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – GO (Tsurykau & Khramchankova 2008, 2010a), MI (Yatsyna 2012b, 2013b, 2014a): cor Acp, Fre, Til.
338. **Melanelixia glabratula** (Lamy) Sandler & Arup – BR (Golubkov 1987, Yurchenko & Golubkov 2003, Kobzar 2006, Bely 2011a, Tsurykau et al. 2013b, Yatsyna 2014d, Bely & Kudin 2016), GO (Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Golubkov 1987, 1992, 2007, 2011, Kravchuk 2001, Tsurykau 2005, Golubkov et al. 2007b, Tsurykau & Khramchankova 2008, Tsurykau et al. 2009, 2013b, Bely 2010a, 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1992, 2014a, Golubkov & Khartanovich 2004b, Golubkov et al. 2007b, Yatsyna 2010g, 2016c, Bely 2011a), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1987, 1992, Kravchuk 2001, Chernyshov 2003, Mavrishev & Dyukova 2008b, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk 2001, Kobzar 2006, Yatsyna 2009b, 2012a, Bely 2011a), VI (Gorbach & Mashenkova 1967,

Golubkov 1987, 1991, 1992, Kravchuk 2001, Golubkov & Kobzar 2007, Yatsyna 2010c, 2011a, 2017, Bely 2011a, Gapienko et al. 2014), no exact locality (Gorbach 1956, 1957): cor Acp, Acs, Aln, Bet, Car, Coa, Fre, Mal, Pdo, Pic, Pin, Pon, Pot, Qur, Sal, Sor, Til. – Note: Many of the records of *M. glabratula* included here were originally reported as *M. fuliginosa* because the two species were previously considered to be synonymous by many authors. Following Arup and Sandler Berlin (2011) the material is referred to *M. glabratula*.

339. **Melanelixia subargentifera** (Nyl.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – BR (Golubkov 1987, Yatsyna 2014d), GO (Savicz 1909, Kreyer 1913, Ges 1960, Golubkov 1987, 1992, Kravchuk 2001, Golubkov et al. 2007b, Tsurykau & Khramchankova 2007, 2008, Bely 2011a, Tsurykau et al. 2013b), GR (Golubkov 1987, 1992, 2014a, Golubkov & Khartanovich 2005, Yatsyna 2016c), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1987, 1992, Golubkov & Yesis 1997b, Chernyshov 2003, Yurchenko 2011, Yatsyna 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Golubkov et al. 2007b, Yatsyna 2009b, Bely 2011a), VI (Kreyer 1913, Golubkov 1992, Kravchuk 2001, Kobzar 2006, Yatsyna 2010c, 2011a, Gapienko et al. 2014), no exact locality (Gorbach 1956, Golubkov 1992, Yatsyna 2009e): cor, lig Acp, Aln, Ahi, Bet, Car, Fre, Mal, Pce, Pic, Poa, Poc, Pon, Pot, Qur, Sal, Til, Ulm.
340. **Melanelixia subaurifera** (Nyl.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – BR (Suza 1928, Krawiec 1938, Golubkov 1987, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2007, 2008, 2010a, 2015, Tsurykau et al. 2009, 2013b, Bely 2010a, 2011a, Tsurykau 2010, Yurchenko 2011, Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov & Khartanovich 2004a, 2005, Yatsyna 2010g, 2013a, 2016c, Bely 2011a, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna 2005, 2010a, 2014a, 2015c, Kobzar 2006, Bely 2010c, 2011a, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1991, 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2009a, 2010c, 2010d, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, Golubkov 1992, Yatsyna 2009e): cor, lig Acd, Acp, Acs, Ahi, Aln, Bet, Car, Coa, Fre, Jun, Lar, Mal, Pce, Pdo, Pic, Pin, Pob, Poc, Pon, Pot, Ppa, Pyr, Qup, Qur, Sal, Sor, Til, Ulm, on *Lobaria pulmonaria*.
341. **Melanohalea elegantula** (Zahlbr.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – BR (Bely 2011b), MI (Bely 2011a, Yatsyna 2014a), VI (Insarov & Pchelkin 1982, Bely 2011a): cor Pic, Poa, Qur.
342. **Melanohalea exasperata** (De Not.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – BR (Filipowicz 1881, Suza 1928, Krawiec 1938, Golubkov 1987), GO (Savicz 1909, Kreyer 1913, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Golubkov 1992, Kravchuk 2001, Tsurykau & Khramchankova 2007, 2008, 2010a, Tsurykau et al. 2009, 2013b, Yatsyna 2013a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 1992, 2014a), MI (Bachmann & Bachmann 1920, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Mavrishev & Dyukova 2008a, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Kobzar 2006, Yatsyna 2009b, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Kravchuk 2001, Yatsyna 2010c, 2011a, Bely 2011a), no exact locality (Gorbach 1956, 1957, Yatsyna 2009e): cor, lig Acp, Acs, Aln, Bet, Car, Fre, Pic, Pin, Poa, Pon, Pot, Pyr, Qur, Sal, Sor, Til, Ulm.
343. **Melanohalea exasperatula** (Nyl.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – BR (Golubkov 1987, Yurchenko & Golubkov 2003, Yurchenko 2011, Bely 2011a, Yatsyna 2014d, Bely & Kudin 2016), GO (Savicz 1911, Kreyer 1913, Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Golubkov 1987, 2011, Kravchuk 2001, Tsurykau 2005, 2010, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2010a, 2015, Tsurykau et al. 2009, 2013b, Bely 2010a, 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1992, 2014a, Kravchuk 2001, Yurchenko & Golubkov 2003, Golubkov & Khartanovich 2004a, Andreeva et al. 2006, Golubkov et al. 2007b, Yatsyna 2010g, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Gorbach 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Golubkov 1987, 1992, Kravchuk & Kakareka 1995, Yurchenko & Golubkov 2003, Chernyshov



- 2003, 2004a, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2010c, 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk 2001, Yatsyna 2009b, 2013a, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Yurchenko & Golubkov 2003, Kobzar 2006, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1957, 1962, Yatsyna 2009e): cor, fol, lig, met, sil Acd, Acp, Acs, Ahi, Aln, Bet, Car, Euo, Fre, Lar, Mal, Mas, Pce, Pdi, Pdo, Pic, Pin, Poa, Pob, Poc, Pon, Pot, Qur, Sal, Sor, Til, Ulm, on *Lobaria pulmonaria*.
344. **Melanohalea olivacea** (L.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – BR (Krawiec 1938, Kobzar 2006), GO (Savicz 1909, Ges 1960, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Kravchuk 2001, Kobzar 2006, Tsurykau & Khramchankova 2007, 2008, 2010a, Tsurykau et al. 2009, 2013b, Yurchenko 2011, Golubkov 2011, Yatsyna 2014d), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Yatsyna 2010g, 2013a, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 2006, Mavrishev & Dyukova 2008a, Bely 2011a), MO (Savicz 1925, Yatsyna 2009b, 2013a) VI (Kreyer 1913, Gorbach & Mashenkova 1967, Insarov & Pchelkin 1982, Golubkov 1991, 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, 1962, Golubkov 1992, Yatsyna 2009e): cor, ter Acp, Acs, Aln, Bet, Car, Fre, Mal, Pce, Pic, Pon, Pot, Pyr, Qur, Sal, Sor, Til, Ulm. – Note: The report on stone by Bachmann and Bachmann (1920) likely refers to another taxon. As the Bachmann herbarium was destroyed during World War II, there is no chance to reexamine the supporting voucher and thus the report is not included in the present list.
345. **Melanohalea septentrionalis** (Lynge) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – VI (Bely 2011a): cor Bet.
346. **Menegazzia terebrata** (Hoffm.) A. Massal. – BR (Golubkov 1986, Yatsyna 2013e, 2014d), GO (Wyssotzky et al. 1925, Golubkov 1986, Yatsyna 2011d), GR (Golubkov 1986, 2014a, Yatsyna 2009e), MI (Gorbach 1965d, Golubkov 1987, 1992, Bely 2010b, 2011a, 2014, Yatsyna 2013e, 2015c, Golubkov et al. 2013), MO (Savicz & Savicz 1924, Savicz 1925, Golubkov 1992), VI (Golubkov 1986, 1987, Golubkov & Kobzar 2007, Bely 2008b, 2010b, Yatsyna 2013e, 2017), no exact locality (Gorbach 1957, 1962): cor Aln, Bet, Car, Pic, Pin, Pon, Pot, Qur.
347. **Micarea cinerea** (Schaer.) Hedl. – GO (Golubkov & Vynaev 1981), GR (Bachmann & Bachmann 1920), MI (Golubkov & Yesis 1997a): cor Pin, Sor.
348. **Micarea denigrata** (Fr.) Hedl. – GO (Yatsyna 2013d, Tsurykau & Czarnota 2014), GR (Bachmann & Bachmann 1920, Makarevich 1960), MI (Bachmann & Bachmann 1920, Yatsyna & Yurchenko 2013): cor, lig Pin, Jun.
349. **Micarea elachista** (Körb.) Coppins & R. Sant. – GO (Tsurykau & Czarnota 2014): cor Pin.
350. **Micarea lynceola** (Th. Fr.) Palice – GR (Bachmann & Bachmann 1920): sil.
351. **Micarea melaena** (Nyl.) Hedl. – BR (Bely 2011a), GO (Tsurykau & Czarnota 2014), MI (Yatsyna 2015c), MO (Yatsyna 2013a), VI (Bely 2011a, Yatsyna 2017): cor, lig Pic, Pin.
352. **Micarea micrococca** (Körb.) Gams ex Coppins – GO (Tsurykau & Czarnota 2014), VI (Gapienko et al. 2014): cor Pin.
353. **Micarea misella** (Nyl.) Hedl. – GO (Tsurykau & Czarnota 2014), VI (Gapienko et al. 2014, Yatsyna 2017): cor, lig Pic, Pin.
354. **Micarea nitschkeana** (J. Lahm ex Rabenh.) Harm. – GO (Golubkov 2011, Tsurykau 2017b), GR (Bachmann & Bachmann 1920), MI (Bachmann & Bachmann 1920, Savicz 1925): cor Aln, Bet, Pin, Pot.
355. **Micarea peliocarpa** (Anzi) Coppins – GO (Yatsyna 2012d), MI (Yatsyna 2012d): cor Pin.

356. **Micarea prasina** Fr. – BR (Golubkov 1987), GO (Golubkov & Vynaev 1981, Tsurykau & Khramchankova 2011a), MI (Yatsyna 2010f, 2015c, Yatsyna & Yurchenko 2013), MO (Yatsyna 2013a), VI (Kobzar 2006, Yatsyna 2010c, 2011a, 2017, Yurchenko 2011, Bely 2011a): cor, lig Fre, Jun, Pic, Pin, Qur.
357. **#Microcalicium arenarium** (Hampe ex A. Massal.) Tibell – BR (Golubkov 1987): roo.
358. **#Microcalicium disseminatum** (Ach.) Vain. – BR (Golubkov 1987), GR (Golubkov 1987), MI (Golubkov 1987, Yatsyna 2010f), VI (Golubkov 1987, Yatsyna 2017): cor, lig Pic, Pin, Qur.
359. **Montanelia sorediata** (Ach.) Divakar, A. Crespo, Wedin & Essl. – BR (Golubkov 1992), GO (Kobzar 2006), GR (Golubkov & Kobzar 2005), MI (Bachmann & Bachmann 1920, Gorbach 1973b, Golubkov 1992, Chernyshov 2003, Golubkov et al. 2007b, Yurchenko 2011), MO (Savicz 1925), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Bely 2008b), no exact locality (Golubkov 1992): sil.
360. **Mycobilimbia carneoalbida** (Müll. Arg.) S. Ekman & Printzen – BR (Yatsyna 2013f), GR (Yatsyna 2013f, 2016c), MI (Yatsyna 2010a), VI (Kreyer 1913, Yatsyna 2011a, 2013f): mus, ter, on *Peltigera rufescens*.
361. **Mycobilimbia pilularis** (Körb.) Hafellner & Türk – BR (Kobzar 2006), MI (Golubkov & Vynaev 1981), VI (Golubkov 1992): cor, ter Acp.
362. **+Mycocalicium subtile** (Pers.) Szatala – BR (Bely & Golubkov 2009a, Bely 2011b), GO (Golubkov 1992, Yatsyna 2012e), GR (Kobzar 2006), MI (Golubkov & Vynaev 1981, Golubkov & Yesis 1997a, Kobzar 2006, Yatsyna 2009d, 2014a, 2015c, Bely & Golubkov 2009a), VI (Kreyer 1913, Bely & Golubkov 2009a, Yatsyna 2010c, 2017, Bely 2011a), no exact locality (Golubkov & Titov 1990): lig Pic, Pin.
363. **+Mycomicrothelia melanospora** (Hepp) D. Hawksw. – VI (Kreyer 1913, Yatsyna 2011e): cor Bet.
364. **Myriolecis crenulata** (Ach.) Śliwa, Zhao Xin & Lumbsch – BR (Golubkov 1987, Yatsyna 2014d), GO (Tsurykau & Khramchankova 2007, 2009a, Golubkov 2011, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, 2014a, Yatsyna 2016c), MI (Golubkov & Vynaev 1981, Golubkov 1992, 1997, Chernyshov 2003, 2004a, Yatsyna 2007a, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013), VI (Kreyer 1913, Golubkov 1992, Yatsyna 2008, 2011a, 2011e, Yurchenko 2011): cal, sil. – Note: The report on lignum by Kreyer (1913) likely refers to another taxon and the supporting voucher should be reexamined.
365. **Myriolecis dispersa** (Pers.) Śliwa, Zhao Xin & Lumbsch – BR (Golubkov 1987), GO (Savicz 1911, Golubkov et al. 2007a, Tsurykau & Khramchankova 2007, 2009a, Golubkov 2011, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Yatsyna 2010g, Golubkov 2014a), MI (Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2004a, Yatsyna 2012b, 2012c), MO (Yatsyna 2009b), VI (Kobzar 1983, Kravchuk 2001, Yatsyna 2011a, 2011e): cal, sil, ter.
366. **Myriolecis hagenii** (Ach.) Śliwa, Zhao Xin & Lumbsch – GO (Kravchuk 2000, 2001, Golubkov 2007, Tsurykau & Khramchankova 2007, 2009a, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005), MI (Kravchuk & Kakareka 1995, Chernyshov 2003, 2004a, Bely 2011a, Bely & Nikolaichuk 2012), MO (Kravchuk & Kakareka 1998), VI (Bachmann & Bachmann 1920, Kobzar 1983, Golubkov 1987, 1992): cor, lig Abi, Acp, Ahi, Aln, Fre, Pic, Pon, Pot, Qur, Sor, Til, Ulm.
367. **Myriolecis sambuci** (Pers.) Clem. – MI (Yatsyna 2005), VI (Kreyer 1913), no exact locality (Gorbach 1962): cor, lig Pot.
368. **#Naetrocymbe punctiformis** (Pers.) R. C. Harris – GR (Bachmann & Bachmann 1920), MI (Gorbach 1955), MO (Kreyer 1913), VI (Kreyer 1913, Yurchenko 2011, Yatsyna 2011e): cor Aln, Bet, Pot, Qur.



369. **Nephroma arcticum** (L.) Torss. – MI (Golubkov & Kobzar 2005): ter.
370. **Nephroma bellum** (Spreng.) Tuck. – MI (Savicz 1925): cor Pic.
371. **Nephroma parile** (Ach.) Ach. – MI (Savicz 1925): cor Qur.
372. **Nephroma resupinatum** (L.) Ach. – MI (Savicz 1925): cor Pic. – Note: The report by Yatsyna (2009b) may be erroneous because the species was not listed in later papers (e.g. Yatsyna 2015e). The supporting voucher should be reexamined before the report is included here.
373. **Nephromopsis chlorophylla** (Willd.) Divakar, Crespo & Lumbsch – BR (Krawiec 1938, Golubkov 1987, Bely 2011a, Yatsyna 2011b, Tsurikova 2013, Bely & Kudin 2016), GO (Savicz 1911, Ges 1960, Golubkov & Vynaev 1981, Kravchuk 2001, Tsurykau & Khramchankova 2007, 2008, Tsurykau et al. 2009, Yatsyna 2011b, Golubkov 2011, Tsurikova 2013), GR (Bachmann & Bachmann 1920, Yatsyna 2009e, 2010g, 2011b, 2016c, Bely 2011a, Golubkov 2014a), MI (Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Vyazovskaya & Golubkov 1997, Kravchuk 2001, Chernyshov 2003, Yatsyna 2005, 2010a, 2011b, 2014a, 2015c, Bely 2010c, 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk 2001, Yatsyna 2009b, 2011b), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov & Kobzar 2007, Yatsyna 2008, 2009e, 2010c, 2010d, 2011a, 2011b, 2017, Bely 2011a): cor, lig, ter Abi, Acp, Aln, Bet, Car, Jun, Pce, Pic, Pin, Pon, Pot, Pyr, Qup, Qur, Sal, Til.
374. **Nephromopsis ciliaris** (Ach.) Hue – no exact locality (Tomin 1937): cor.
375. **Ochrolechia alboflavescens** (Wulfen) Zahlbr. – GR (Kukwa 2011), MI (Kukwa 2011), VI (Kukwa 2011): cor Bet, Pin, Qur.
376. **Ochrolechia arborea** (Kreyer) Almb. – BR (Golubkov 1987), GO (Kreyer 1913, Ljubitzkaja 1914, Ges 1960, Golubkov 2011, Bely 2011a, Tsurykau et al. 2014a), GR (Golubkov 2014a), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992), no exact locality (Gorbach 1956, 1957): cor, lig Acp, Aln, Car, Fre, Pic, Pin, Pot, Qur, Sal, Sor, Til.
377. **Ochrolechia bahusiensis** H. Magn. – MI (Tsurykau et al. 2014a): cor Bet.
378. **Ochrolechia microstictoides** Räsänen – GO (Tsurykau 2017c), MI (Tomin 1956), VI (Gorbach 1973b): cor Bet, Pin.
379. **Ochrolechia pallescens** (L.) A. Massal. – BR (Golubkov 1987), GO (Savicz 1911, Wyssotzky et al. 1925, Yurchenko 2011, Tsurykau et al. 2014a), GR (Golubkov 1987, Yurchenko & Golubkov 2003), VI (Kreyer 1913, Golubkov 1992, Golubkov & Kobzar 2007): cor, lig Aln, Bet, Pin, Qur, Til.
380. **Opegrapha herbarum** Mont. – GO (Tsurykau 2012): cor Pin.
381. **Opegrapha niveoatra** (Borrer) J.R. Laundon – BR (Golubkov 1987), GR (Golubkov 1987), no exact locality (Gorbach 1973b): cor Car, Pot, Qur, Sal, Sor.
382. **Opegrapha vermicellifera** (Kunze) J.R. Laundon – BR (Golubkov 1987), GR (Golubkov 1987), MI (Yatsyna 2012c), no exact locality (Gorbach 1973b): cor Acp, Car, Fre, Qur, Sal, Ulm.
383. **Opegrapha vulgata** (Ach.) Ach. – BR (Golubkov 1987): cor Acp, Aln, Car.
384. **Palicella filamentosa** (Stirt.) Rodr. Flakus & Printzen – BR (Filipowicz 1881, Suza 1928, Golubkov 1987, Kobzar 2006, Yurchenko 2011, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1911, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Tsurykau &

- Khramchankova 2007, 2009a, Tsurykau et al. 2009, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Yatsyna 2013a, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, 2004b, 2005, Andreeva et al. 2006, Yatsyna 2010g, Bely 2011a), MI (Bachmann & Bachmann 1920, Gorbach 1961, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, 2004a, 2004c, Yatsyna 2005, 2009d, 2012b, 2012c, 2013b, 2013c, 2014a, 2015c, Kobzar 2006, Yurchenko 2011, Bely 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b, 2012a, Bely 2011a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2010c, 2010f, 2011a, 2017, Yurchenko 2011, Bely 2011a), no exact locality (Belomesyatseva 2004): cor, lig Aln, Bet, Car, Coa, Fre, Jun, Pic, Pin, Pot, Pyr, Sal, Sor, Qur, Til, Ulm.
385. **Parmelia fraudans** (Nyl.) Nyl. – GR (Golubkov 1993, Golubkov et al. 2007b), MI (Golubkov 1993, Yatsyna 2010a), VI (Golubkov & Kobzar 1996, Golubkov et al. 2007b): sil.
386. **Parmelia saxatilis** (L.) Ach. – GO (Gorbach 1973b), GR (Gilibert 1781, Bachmann & Bachmann 1920), MI (Bachmann & Bachmann 1920, Yatsyna & Stefanovich 2005), MO (Savicz 1925), VI (Kreyer 1913, Bachmann & Bachmann 1920, Golubkov 1996, Yatsyna 2011c): sil. – Note: Ongoing revision of specimens previously identified as *P. saxatilis* has revealed that all corticolous records belong to other species (Tsurykau et al. in prep.).
387. **Parmelia serrana** A. Crespo, M.C. Molina & D. Hawksw. – BR (Yatsyna 2013d, Bely 2016c), GR (Yatsyna 2013d), MI (Yatsyna 2014a), MO (Yatsyna 2013d), VI (Yatsyna 2013d, Bely 2016c): cor, lig Car, Pic, Til.
388. **Parmelia sulcata** Taylor – BR (Tessendorff 1922, Krawiec 1938, Golubkov 1987, Yurchenko & Golubkov 2003, Kobzar 2006, Bely 2011a, Tsurikova 2013, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Danilchuk et al. 1976, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Kravchuk 2001, Yurchenko & Golubkov 2003, Tsurykau 2004, 2005, 2010, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2009a, 2010a, 2015, Tsurykau et al. 2009, 2012b, 2013a, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Tsurikova 2013), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, 2004b, 2005, Kobzar 2006, Andreeva et al. 2006, Valko 2008, Yatsyna 2010g, 2013a, 2016c, Yurchenko 2011, Bely 2011a, Tsurykau 2017a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Golubkov 1992, Kravchuk & Kakareka 1995, Kobzar 1997, 2006, Yurchenko & Golubkov 2003, Chernyshov 2003, 2004a, Yatsyna 2005, 2009d, 2010a, 2010f, 2012b, 2012c, 2013b, 2013c, 2014c, 2014b, Mavrishev & Dyukova 2008a, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk & Kakareka 1998, Kobzar 2006, Yatsyna 2009b, 2012a, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Gorbach et al. 1982, Insarov & Pchelkin 1982, Golubkov 1991, 1992, Yurchenko & Golubkov 2003, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2013a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, Golubkov 1992, Yatsyna 2009e): cal, cor, fol, lig, sil, ter Acd, Acn, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Coa, Euo, Fre, Frp, Lar, Mal, Mas, Pce, Pdi, Pdo, Pic, Pin, Pma, Poa, Pob, Poc, Pon, Pot, Ppa, Pyr, Qur, Qup, Rob, Sal, Sor, Til, Ulm, on *Lobaria pulmonaria*.
389. **Parmelina tiliacea** (Hoffm.) Hale – BR (Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2014d, Bely & Kudin 2016), GO (Savicz 1909, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Tsurykau 2005, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2010a, Bely 2010a, 2011a), GR (Golubkov 1992, Golubkov & Khartanovich 2004b, Golubkov et al. 2007b, Yatsyna 2016c), MI (Gorbach 1961, Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 2006, Yatsyna 2006b, 2010a, 2012b, 2012c, 2013b, 2013c, 2014c, 2014b, 2015c, Yatsyna & Yurchenko 2013), MO (Kobzar 2006, Yatsyna 2009b, 2012a), VI (Kreyer 1913, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Yatsyna 2010c), no exact locality (Gorbach 1962): cor, lig, met, sil Acp, Ahi, Aln, Bet, Car, Fre, Mal, Poa, Pob, Pon, Pot, Qur, Sal, Til, Ulm.



390. **Parmeliopsis ambigua** Nyl. – BR (Golubkov 1987, Golubkov et al. 2007b, Bely 2011a, Yatsyna 2013a), GO (Wysotszky et al. 1925, Ges 1960, Golubkov & Vynaev 1981, Golubkov 1992, Tsuryskau & Khramchankova 2007, Tsuryskau et al. 2009, Bely 2011a, Tsurikova 2013, Yatsyna 2013a, 2014d, Tsuryskau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna 2009d, 2010a, 2010f, 2013a, 2015c, Bely 2010c, 2011a), MO (Savicz & Savicz 1924, Savicz 1925, Yatsyna 2009b, 2013a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1965d, Insarov & Pchelkin 1982, Golubkov 1991, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010f, 2011a, 2013a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, Yatsyna 2009e): cor, lig, roo Aln, Bet, Fre, Jun, Pic, Pin, Pot, Qur, Til.
391. **Parmeliopsis hyperopta** (Ach.) Arnold – BR (Golubkov & Kobzar 2005), GO (Palamarchuk et al. 1975, Golubkov 1992, Tsuryskau & Khramchankova 2007), MI (Gorbach 1955, Golubkov & Vynaev 1981, Golubkov & Yesis 1997a, Bely 2010c, 2011a, Golubkov et al. 2013), VI (Gorbach & Mashenkova 1967, Gorbach 1978, Insarov & Pchelkin 1982, Golubkov 1992, Golubkov & Kobzar 2007, Bely 2008b, 2014, Yatsyna 2010c), no exact locality (Gorbach 1957, Belomesyatseva 2004): cor, lig Bet, Jun, Pic, Pin, Pot, Qur. – Note: This species was reported by Tomin (1937) without additional information or specific citation of a source. Furthermore, the species was not located in any of his previously published contributions. Therefore, the report seems to be doubtful and it is not included in the present list.
392. **Parmotrema perlatum** (Huds.) M. Choisy – GR (Gilibert 1792), GR (Tsuryskau et al. 2015), VI (Motiejūnaitė & Grochowski 2014): not indicated.
393. **Parmotrema stuppeum** (Taylor) Hale – BR (Golubkov & Kobzar 2005, Bely 2016b), GO (Golubkov 1986, 2010, Tsuryskau & Khramchankova 2006, Tsuryskau et al. 2009, 2015, Yatsyna 2011d, Bely 2016b), MO (Yatsyna 2012a, Tsuryskau et al. 2015), no exact locality (Rassadina 1971): cor Acp, Aln, Car, Fre, Pic, Pot, Qur.
394. **Peltigera apthosa** (L.) Willd. – GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920), MI (Gorbach 1955, Golubkov & Vynaev 1981, Golubkov et al. 2013), MO (Kreyer 1913), VI (Kreyer 1913, Gapienko et al. 2014), no exact locality (Gorbach 1957, 1962): cor, ter Aln, Car, Pic, Pot, Qur.
395. **Peltigera canina** (L.) Willd. – BR (Golubkov 1987, Yatsyna 2013a), GO (Savicz 1910, Wysotszky et al. 1925, Ges 1960, Gorbach 1973a, Danilchuk et al. 1976, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsuryskau 2005, Golubkov et al. 2007a, Tsuryskau et al. 2009, Golubkov 2011, Tsuryskau & Tsurikova 2017), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Kobzar 2006, Yatsyna 2010g, Yurchenko 2011, Bely 2011a, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2014a, 2013a, Kobzar 2006, Bely 2010c), MO (Kreyer 1913, Savicz & Savicz 1924, Kobzar 2006, Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1992, Yatsyna 2008, 2010c, Bely 2011a), no exact locality (Gorbach 1957, 1962, Kobzar 1998): cor, mus, lig, roo, ter Acp, Aln, Bet, Car, Pic, Pin, Pot, Qur, Til.
396. **Peltigera didactyla** (With.) J.R. Laundon – BR (Suza 1928, Golubkov 1987, Bely 2011a, Yatsyna 2013a), GO (Savicz 1910, Wysotszky et al. 1925, Golubkov & Vynaev 1981, Tsuryskau 2005, Golubkov et al. 2007a, Tsuryskau & Khramchankova 2009a, Golubkov 2011, Bely 2011a, Sobchanka et al. 2012, Tsuryskau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Golubkov & Kochan 2007, Yatsyna 2010g, 2013a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Golubkov & Vynaev 1981, Chernyshov 2003, Kobzar 2006, Yatsyna 2010a, 2013a, 2013b, Bely 2010c, 2011a, Yurchenko 2011), MO (Kreyer 1913, Yatsyna 2009b, 2013a, Yurchenko 2011), VI (Kreyer 1913, Bachmann & Bachmann 1920, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, Bely 2011a), no exact locality (Tomin 1937): lig, mus, roo, ter Sal.
397. **Peltigera extenuata** (Nyl. ex Vain.) Lojka – MI (Bely 2011a), VI (Bely & Golubkov 2009a): ter.

398. **Peltigera horizontalis** (Huds.) Baumg. – BR (Yatsyna 2013e), GO (Gorbach 1970), GR (Golubkov 1985, Golubkov & Kochan 2007), MI (Golubkov 1992, Yatsyna 2013e): cor, mus, ter Pic.
399. **Peltigera hymenina** (Ach.) Delise – GO (Tsurykau 2017c), MI (Golubkov & Zavarzin 2010), VI (Kreyer 1913, Bely 2011a): cor, lig, mus, ter Pot.
400. **Peltigera lepidophora** (Nyl. ex Vain.) Bitter – BR (Golubkov & Kobzar 2005), GO (Savicz 1910, Golubkov 1992), GR (Golubkov 1992), MI (Kreyer 1913, Golubkov & Vynaev 1981, Kobzar 2006), VI (Kreyer 1913), no exact locality (Gorbach 1962): cor, mus, ter Fre.
401. **Peltigera leucophlebia** (Nyl.) Gyeln. – MI (Kobzar 2006), MO (Golubkov & Kobzar 2005, Kobzar 2006), VI (Golubkov & Kobzar 2005, Kobzar 2006): cor, mus Pot.
402. **Peltigera malacea** (Ach.) Funck – BR (Golubkov 1987, Kobzar 2006, Yatsyna 2013a), GO (Savicz 1911, Ges 1960, Golubkov 1992, Kobzar 2006, Tsurykau & Khranchankova 2007, Tsurykau et al. 2009), GR (Bachmann & Bachmann 1920, Kobzar 2006, Yatsyna 2010g, 2013a, Golubkov 2014a), MI (Oksner 1924, Savicz 1925, Golubkov & Vynaev 1981, Kobzar 2006, Yatsyna 2007a, 2013a, 2015c), MO (Yatsyna 2013a), VI (Kreyer 1913, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2011a, 2013f), no exact locality (Bely 2015a): lig, mus, ter.
403. **Peltigera membranacea** (Ach.) Nyl. – BR (Bely 2011a, 2011b), GR (Yatsyna 2016c), VI (Bely & Golubkov 2008, Yatsyna 2017): cor, mus Aln, Pic, Pot, Qur.
404. **Peltigera neckeri** Hepp ex Müll. Arg. – BR (Bely & Golubkov 2008), GO (Bely & Golubkov 2008), GR (Golubkov & Kochan 2007, Bely & Golubkov 2008), MI (Bely & Golubkov 2008, Yatsyna 2010a, Golubkov et al. 2013), MO (Bely 2011a), VI (Bely & Golubkov 2008, Yatsyna 2017): cor, mus, ter Pot, Qur.
405. **Peltigera neopolydactyla** (Gyeln.) Gyeln. – BR (Bely 2011b), GO (Bely & Golubkov 2009a), GR (Yatsyna 2016c), MI (Bely & Golubkov 2009a, Golubkov et al. 2013), VI (Bely & Golubkov 2009a): cor, lig, mus, ter Pot, Qur.
406. **Peltigera polydactylon** (Neck.) Hoffm. – BR (Bely 2011a, 2011b), GO (Tsurykau & Khranchankova 2007, Golubkov 2011), GR (Golubkov & Kochan 2007, Bely 2011a), MI (Bely 2011a, 2012c, Golubkov et al. 2013), VI (Golubkov & Kobzar 2007, Bely 2011a): cor, mus, ter Qur. – Note: The distribution of *P. polydactylon* in Belarus is unclear as herbarium specimens identified as “*P. polydactyla*” mainly belong to other species of the *P. polydactylon* group (e.g. Golubkov & Zavarzin 2010); therefore, all historical reports as well as these published by Yatsyna (2008, 2010a, 2010c, 2010g, 2011a, 2014d) are treated as referring to the complex of species and thus require further study.
407. **Peltigera ponojensis** Gyeln. – BR (Golubkov & Zavarzin 2010), GR (Bely 2011a, Bely & Golubkov 2012, Yatsyna 2016c), MI (Yatsyna 2014a), VI (Bely 2011a): lig, mus, ter.
408. **Peltigera praetextata** (Flörke ex Sommerf.) Zopf – BR (Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2014d), GO (Savicz 1911, Wysotszky et al. 1925, Golubkov 1992, Kobzar 2006, Tsurykau & Khranchankova 2007, Tsurykau et al. 2009, Bely 2011a, Tsurykau 2017a, Tsurykau & Tsurikova 2017), GR (Kobzar 2006, Golubkov & Kochan 2007, Yatsyna 2010g, 2016c, Golubkov 2014a), MI (Savicz 1925, Golubkov 1992, Kobzar 2006, Yatsyna 2010a, 2013c, 2014a, 2015c, Bely 2011a, Golubkov et al. 2013), MO (Savicz 1925, Yatsyna 2009b, 2012a), VI (Kreyer 1913, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, 2017, Bely 2011a), no exact locality (Tomin 1937, Gorbach 1957): cor, lig, mus, ter Car, Fre, Pic, Pot, Qup, Qur, Til.
409. **Peltigera rufescens** (Weiss) Humb. – BR (Tessendorff 1922, Krawiec 1938, Golubkov 1987, Kobzar 2006, Yatsyna 2013a), GO (Ljubitzkaja 1914, Gorbach 1973a, Palamarchuk et al. 1975, Golubkov 1992, Tsurykau 2005, Timoshenkova & Tsurykau 2005, Tsurykau et al. 2009, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Kobzar 2006, Golubkov & Kochan 2007, Yatsyna 2010g, Yurchenko



- 2011, Golubkov 2014a), MI (Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Yatsyna & Stefanovich 2005, Kobzar 2006, Yatsyna 2010a, 2013a, 2014b, Yurchenko 2011), MO (Kobzar 2006, Yatsyna 2009b, 2013a), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Kobzar 2006, Yatsyna 2008, 2010c, 2010d, 2011a, Bely 2011a), no exact locality (Kobzar 1998, Yatsyna 2009e): cor, mus, ter Car, Pot.
410. **Pertusaria alpina** Hepp ex Ahles – BR (Golubkov 1987), GO (Gorbach 1973b, Danilchuk et al. 1976, Golubkov & Vynaev 1981), GR (Golubkov 1987), VI (Gorbach 1973b, Golubkov 1992), no exact locality (Tomin 1956, Gorbach 1956, 1957): cor Car, Coa, Fre, Pot, Til.
411. **Pertusaria coccodes** (Ach.) Nyl. – BR (Golubkov 1987), GO (Golubkov & Vynaev 1981, Golubkov 1992), GR (Golubkov 1987, 2014a), MI (Golubkov & Vynaev 1981, Yatsyna 2005, 2012b, 2012c, 2013b, Kobzar 2006, Bely 2010c, 2011a, Yurchenko 2011), MO (Kobzar 2006, Yurchenko 2011, Bely 2011a), VI (Gorbach 1973b, 1978, Golubkov 1992, Bely 2011a), no exact locality (Gorbach 1973b): cor, lig, sil Acp, Car, Poa, Pot, Qup, Qur, Til, Ulm.
412. **Pertusaria constricta** Erichsen – BR (Gorbach 1970): cor Car.
413. **Pertusaria coronata** (Ach.) Th. Fr. – BR (Golubkov 1987), GO (Wyssozky et al. 1925), GR (Golubkov 1987, Golubkov & Kukwa 2006), MO (Savicz 1925), VI (Gorbach 1981): cor Aln, Car, Fre, Til.
414. **Pertusaria flavida** (DC.) J.R. Laundon – BR (Golubkov 1987), GR (Golubkov 1987), no exact locality (Tomin 1956): cor Aln, Fre, Qur.
415. **Pertusaria leioplaca** DC. – BR (Golubkov 1987, Yatsyna 2014d), GO (Wyssozky et al. 1925, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Yurchenko 2011), GR (Golubkov 1987), MI (Golubkov & Vynaev 1981, Golubkov 1992, Bely 2011a, Yatsyna 2014a, 2015c), MO (Savicz 1925, Yatsyna 2009b, 2012a), VI (Kreyer 1913, Kobzar 2006, Yatsyna 2010c, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1973b): cor Acp, Aln, Bet, Car, Coa, Fre, Pot, Qur, Sor, Til.
416. **Pertusaria pertusa** (Weigel.) Tuck. – BR (Golubkov 1987), GO (Savicz 1911, Wyssozky et al. 1925, Golubkov 1992), GR (Yurchenko 2011), MI (Golubkov & Vynaev 1981, Golubkov 1992, Golubkov & Yesis 1997a, Yatsyna 2010a), MO (Savicz 1925), VI (Golubkov 1987, Bely 2011a), no exact locality (Gorbach 1957, 1973b, Golubkov 1992): cor Acp, Aln, Car, Coa, Fre, Pot, Qur, Sor, Til.
417. **+Phaeocalicium polyporaeum** (Nyl.) Tibell – BR (Yatsyna 2013d): on *Trichaptum biforme*.
418. **Phaeophyscia ciliata** (Hoffm.) Moberg – BR (Golubkov 1987, Bely 2011a, Bely & Kudin 2016), GO (Savicz 1911, Oksner 1925, Wyssozky et al. 1925, Ges 1960, Golubkov 1992, 2011, Tsurukau & Khramchankova 2007, 2008, Tsurukau et al. 2009, Bely 2010a, 2011a, Sobchanka et al. 2012), GR (Yatsyna 2010g, 2013a, Golubkov 2014a), MI (Gorbach 1955, 1961, 1965d, Golubkov & Vynaev 1981, Golubkov 1987, Kravchuk 2001, Yatsyna & Yurchenko 2013, Yatsyna 2014a), MO (Savicz & Savicz 1924, Yatsyna 2009b), VI (Kreyer 1913, Golubkov 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1957, 1962, Yatsyna 2009e): cor Acn, Acp, Ahi, Aln, Bet, Fre, Pic, Pin, Pob, Pon, Pot, Qur, Sal, Sor, Til.
419. **Phaeophyscia nigricans** (Flörke) Moberg – BR (Golubkov 1987, Yatsyna 2014d), GO (Kravchuk 2001, Tsurukau & Khramchankova 2007, 2008, 2010a, Golubkov 2011, Sobchanka et al. 2012, Tsurukau & Tsurikova 2017), GR (Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, 2004b, 2005, Yatsyna 2010g, 2016c), MI (Oksner 1925, Gorbach 1965c, Golubkov & Vynaev 1981, Golubkov 1992, Kravchuk 2001, Yatsyna 2007b, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Mavrishev & Dyukova 2008a, Bely 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Golubkov et al. 2013, Dobysh & Gaevskii 2016), MO (Kravchuk 2001, Yatsyna 2009b), VI (Kreyer 1913, Golubkov 1992, Kravchuk 2001, Golubkov & Kobzar 2007, Yurchenko 2011, Yatsyna 2008, 2010c, 2011a, 2017): cal, cor, lig, sil, ter Acd, Acn, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Fre, Jug, Mal, Pce, Pdi, Pdo, Pob, Pon, Pot, Pyr, Qur, Rob, Sal, Sor, Til, Ulm.

420. **Phaeophyscia orbicularis** (Neck.) Moberg – BR (Golubkov 1987, Bely 2011a, Yatsyna 2014d, Bely & Kudin 2016), GO (Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Kravchuk 2000, 2001, Yurchenko & Golubkov 2003, Tsurykau 2005, 2010, 2017a, Tsurykau & Khramchankova 2008, Tsurykau et al. 2009, 2013a, Bely 2010a, 2011a, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 1992, 2014a, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Andreeva et al. 2006, Valko 2008, Yatsyna 2010g, 2013a, 2016c, Bely 2011a), MI (Oksner 1924, Gorbach 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Golubkov 1987, 1992, Kravchuk & Kakareka 1995, Yurchenko & Golubkov 2003, Chernyshov 2003, 2004c, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, Mavrishev & Dyukova 2008a, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Savicz 1925, Kravchuk & Kakareka 1998, Yurchenko & Golubkov 2003, Yatsyna 2009b, Tsurykau et al. 2016a, Bely 2011a), VI (Kreyer 1913, Golubkov 1987, 1991, 1992, Yurchenko & Golubkov 2003, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2017, Yurchenko 2011, Bely 2011a), no exact locality (Yatsyna 2009e): cal, cor, lig, met, sil Abi, Acd, Acn, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Fre, Jug, Mal, Pce, Pdi, Pdo, Pic, Poa, Pob, Poc, Pon, Pot, Ppa, Pse, Pyr, Qur, Rob, Sal, Sor, Thu, Til, Ulm.
421. **Phaeophyscia pusilloides** (Zahlbr.) Essl. – BR (Yatsyna 2014d), MI (Yatsyna & Golubkov 2009, Bely 2010c), VI (Bely & Golubkov 2012): cor Car, Pot.
422. **Phaeophyscia sciastra** (Ach.) Moberg – BR (Golubkov 1987), GO (Golubkov 2011), GR (Golubkov 1987), MI (Golubkov 1992): cal, sil.
423. **Phlyctis agelaea** (Ach.) Flot. – GO (Wyssotzky et al. 1925), GR (Golubkov 1987, Bely 2011a), MI (Golubkov & Yesis 1997b, Chernyshov 2003, Bely 2011a), MO (Savicz 1925), VI (Golubkov 1987, 1992, Golubkov & Kobzar 2007, Bely 2011a): cor Car, Coa, Fre, Pot, Qur.
424. **Phlyctis argena** (Spreng.) Flot. – BR (Golubkov 1987, Bely 2011a, Bely & Kudin 2016), GO (Ges 1960, Golubkov 1992, 2007, 2011, Tsurykau & Khramchankova 2009a, Tsurykau et al. 2009, Bely 2010a, 2011a, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov & Khartanovich 2004a, 2004b, 2005, Andreeva et al. 2006, Bely 2011a, Golubkov 2014a, Yatsyna 2016c), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Kobzar 1997, 2006, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b, Bely 2011a), VI (Gorbach & Mashenkova 1967, Gorbach 1978, Insarov & Pchelkin 1982, Golubkov 1991, Yatsyna 2010c, 2017, Yurchenko 2011, Bely 2011a), no exact locality (Gorbach 1956, 1957): cor, lig Acp, Aln, Bet, Car, Coa, Fre, Pic, Pin, Poa, Pot, Ppa, Qur, Sal, Sor, Til, Ulm.
425. **Physcia adscendens** (Fr.) H. Olivier – BR (Suza 1928, Krawiec 1938, Golubkov 1987, Bely 2011a, Yatsyna 2014d, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Golubkov 1992, 2011, Kravchuk 2001, Yurchenko & Golubkov 2003, Tsurykau & Khramchankova 2007, 2008, 2010a, Tsurykau et al. 2009, 2013a, Bely 2010a, 2011a, Tsurykau 2010, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Valko 2008, Yatsyna 2010g, 2013a, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Golubkov 1992, Kravchuk 2001, Yurchenko & Golubkov 2003, Chernyshov 2003, Mavrishev & Dyukova 2008a, Yatsyna 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Savicz 1925, Kravchuk 2001, Yatsyna 2009b, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Golubkov 1987, 1991, 1992, Yurchenko & Golubkov 2003, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Bely 2011a), no exact locality (Yatsyna 2009e): cal, cor, lig, met, sil Abi, Acd, Acn, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Fre, Jug, Mal, Pce, Pdi, Pdo, Pic, Pin, Poa, Pob, Pon, Pot, Ppa, Pse, Pyr, Qur, Rob, Sal, Sor, Thu, Til, Ulm.
426. **Physcia aipolia** (Ehrh. ex Humb.) Fűrnr. – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1911, Wyssotzky et al. 1925, Ges 1960,



- Golubkov & Vynaev 1981, Kravchuk 2001, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, Tsurykau et al. 2009, Bely 2010a, 2011a, Golubkov 2011, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, 2014a, Golubkov & Khartanovich 2005, Yatsyna 2010g, 2013a, 2016c), MI (Bachmann & Bachmann 1920, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Golubkov 1992, Kravchuk & Kakareka 1995, Yatsyna 2005, 2010a, 2013b, 2013c, 2014a, 2014b, Kobzar 2006, Mavrishev & Dyukova 2008a, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b, 2013a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Yurchenko 2011, Bely 2011a), no exact locality (Gorbach 1956, 1957, Yatsyna 2009e): cal, cor, lig Acp, Aln, Bet, Car, Fre, Mal, Pic, Pin, Poa, Pob, Poc, Pon, Pot, Pyr, Qur, Sal, Sor, Til, Ulm.
427. **Physcia alnophila** (Vain.) Loht., Moberg, Myllys & Tehler – VI (Bely & Golubkov 2009a, Yatsyna 2011a, 2017): cor Pot.
428. **Physcia caesia** (Hoffm.) Fűrnr. – BR (Golubkov 1987, Bely & Golubkov 2008, Yatsyna 2014d), GO (Savicz 1911, Palamarchuk et al. 1975, Golubkov & Vynaev 1981, Tsurykau & Khramchankova 2007, 2010a, Golubkov 2011, Sobchanka et al. 2012), GR (Golubkov 1987, 2014a, Bely & Golubkov 2008, Yatsyna 2010g, 2016c), MI (Gorbach 1965d, Golubkov & Vynaev 1981, Kravchuk & Kakareka 1995, Bely & Golubkov 2008, Yatsyna 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Savicz 1925, Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1965d, Golubkov 1987, 1992, Kravchuk 2001, Bely & Golubkov 2008, Yatsyna 2010c, 2010d, 2011a): cal, cor, lig, met, mus, sil Acp, Acs, Ahi, Bet, Car, Fre, Jug, Pin, Pdo, Pob, Pot, Qur, Rob, Sal, Sor, Til.
429. **Physcia clementei** (Turner) Maas Geest. – BR (Kobzar 2006), GO (Kobzar 2006), MI (Kobzar 2006), no exact locality (Gorbach 1957): cor Acp, Qur.
430. **Physcia dimidiata** (Arnold) Nyl. – VI (Yatsyna 2010c, 2011a): sil.
431. **Physcia dubia** (Hoffm.) Lettau – BR (Golubkov 1987, Yurchenko & Golubkov 2003, Bely 2011a, Bely & Kudin 2016), GO (Golubkov 1992, 2011, Kravchuk 2001, Tsurykau & Khramchankova 2007, 2008, 2010a, Tsurykau et al. 2009, Bely 2010a, 2011a, Tsurykau 2010, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, Yurchenko & Golubkov 2003, Golubkov & Khartanovich 2004a, 2005), MI (Golubkov 1992, Golubkov & Yesis 1997a, Kravchuk 2001, Yurchenko & Golubkov 2003, Chernyshov 2003, Yatsyna & Stefanovich 2005, Mavrishev & Dyukova 2008a, Bely 2011a, Bely & Nikolaichuk 2012, Yatsyna 2012b, 2012c, 2013c, 2014a, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Kravchuk 2001, Bely 2011a), VI (Golubkov 1992, Yatsyna 2011a): cor Acd, Acn, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Fre, Frp, Jug, Mal, Mas, Pce, Pce, Pdi, Pdo, Pic, Pob, Pon, Pot, Pyr, Qur, Rob, Sal, Sor, Til, Ulm.
432. **Physcia leptalea** (Ach.) DC. – GR (Bachmann & Bachmann 1920), no exact locality (Yatsyna 2009e): cor, lig, sil Aln, Bet, Pin.
433. **Physcia stellaris** (Ach.) Nyl. – BR (Suza 1928, Krawiec 1938, Bely 2011a, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Kravchuk 2000, 2001, Tsurykau 2005, 2010, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2010a, Tsurykau et al. 2009, 2013a, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Tsurykau & Tsurikova 2017), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Gorbach 1978, Golubkov 1987, 2014a, Kravchuk 2001, Yurchenko & Golubkov 2003, Golubkov & Khartanovich 2004a, 2004b, 2005, Valko 2008, Yatsyna 2010g, 2013a, 2016c, Yurchenko 2011, Bely 2011a), MI (Savicz 1909, Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Golubkov 1992, Kravchuk & Kakareka 1995, Kobzar 1997, 2006, Yurchenko & Golubkov 2003, Chernyshov 2003, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk & Kakareka 1998, Yurchenko & Golubkov 2003, Kobzar 2006, Yatsyna 2009b, Bely 2011a), VI (Kreyer 1913, Bachmann &

Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, Yatsyna 2009e): cal, cor, lig, sil Abi, Acd, Acn, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Fra, Fre, Jug, Mal, Pce, Pdi, Pdo, Pic, Pin, Pob, Poc, Pon, Pot, Pse, Pyr, Qur, Rob, Sal, Sor, Til, Ulm.

434. **Physcia tenella** (Scop.) DC. – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Golubkov & Vynaev 1981, Kravchuk 2000, 2001, Yurchenko & Golubkov 2003, Tsurykau 2005, 2010, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2010a, Tsurykau et al. 2009, 2013a, 2016a, Bely 2010a, 2011a, Golubkov 2011, Sobchanka et al. 2012, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Yatsyna 2010g, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Golubkov 1992, Kravchuk & Kakareka 1995, Kobzar 1997, Yurchenko & Golubkov 2003, Chernyshov 2003, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, Kobzar 2006, Mavrishev & Dyukova 2008a, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk & Kakareka 1998, Kobzar 2006, Yatsyna 2009b, Bely 2011a), VI (Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Golubkov 1991, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Yurchenko 2011, Bely 2011a, Tsurykau et al. 2016a), no exact locality (Gorbach 1957, 1962, Yatsyna 2009e): cal, cor, fol, lig, met, sil Acd, Acn, Acp, Acs, Act, Ahi, Aln, Bet, Car, Coa, Fre, Jug, Lar, Mal, Pce, Pdi, Pdo, Pic, Pin, Poa, Pob, Poc, Pon, Pot, Ppa, Pyr, Qur, Rob, Sal, Sor, Til, Ulm.
435. **Physcia tribacia** (Ach.) Nyl. – BR (Golubkov 1987, Bely 2011a, Bely & Kudin 2016), GO (Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Kravchuk 2000, 2001, Tsurykau & Khramchankova 2009a, Bely 2010a, 2011a, Golubkov 2011), GR (Golubkov & Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Bely 2010c, 2011a, Yatsyna 2010g, Yurchenko 2011, Golubkov 2014a), MI (Oksner 1924, Golubkov & Vynaev 1981, Shukanov et al. 1986, Golubkov 1992, 1997, Kravchuk & Kakareka 1995, Chernyshov 2003, Yatsyna & Stefanovich 2005, Yatsyna 2007b, 2010a, 2014b, Yurchenko 2011, Bely 2011a, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Kravchuk & Kakareka 1998, Bely 2011a), VI (Kreyer 1913, Golubkov 1987, 1992, 1997, Golubkov & Kobzar 2007, Yatsyna 2010c, 2011a, Bely 2011a), no exact locality (Yatsyna 2009e): cal, cor, lig, sil Abi, Acp, Ahi, Aln, Bet, Car, Pic, Pma, Poc, Pon, Pot, Qur, Sal, Til.
436. **Physciella chloantha** (Ach.) Essl. – GR (Bachmann & Bachmann 1920): cor Pot.
437. **Physconia detera** (Nyl.) Poelt – BR (Golubkov 1987, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Ljubitzkaja 1914, Wyssotzky et al. 1925, Golubkov 1992, Bely & Golubkov 2008, Tsurykau & Khramchankova 2008, Bely 2010a, 2011a, Yurchenko 2011, Yatsyna 2012e, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987, Yatsyna 2010g, 2016c, Bely 2011a), MI (Oksner 1924, Bely & Golubkov 2008, Yatsyna 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yurchenko 2011, Bely 2012c, Yatsyna & Yurchenko 2013), MO (Savicz 1925, Yatsyna 2009b, Bely 2011a), VI (Bely & Golubkov 2008, Yatsyna 2010c, 2010d, 2017, Bely 2011a), no exact locality (Yatsyna 2009e): cor, lig, mus Acn, Acp, Aln, Bet, Car, Coa, Euo, Fre, Poa, Pot, Qur, Sor, Til.
438. **Physconia distorta** (With.) J.R. Laundon – BR (Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2013a, 2014d, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Palamarchuk et al. 1975, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Kravchuk 2001, Yurchenko & Golubkov 2003, Tsurykau 2005, 2010, 2017a, Golubkov et al. 2007a, Tsurykau & Khramchankova 2007, 2008, 2010a, Tsurykau et al. 2009, Bely 2010a, 2011a, Yurchenko 2011, Yatsyna 2014d), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1987, 1992, Kravchuk & Kakareka 1995, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Kobzar 2006, Dyukova 2008, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Downar 1861, Kreyer 1913, Savicz 1925, Kravchuk 2001, Kobzar 2006, Yatsyna 2009b, 2012a, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920,



Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1987, 1991, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2017, Yurchenko 2011, Bely 2011a), no exact locality (Gorbach 1956, 1957, Yatsyna 2009e): cor, sil Acn, Acp, Acs, Ahi, Aln, Bet, Car, Euo, Fre, Jug, Mal, Poa, Pob, Pon, Pot, Pyr, Qur, Rob, Sal, Sor, Til, Ulm.

439. **Physconia enteroxantha** (Nyl.) Poelt – BR (Golubkov 1987, Bely 2011a, Yatsyna 2014d, Bely & Kudin 2016), GO (Golubkov 1992, 2007, 2011, Tsurykau 2005, 2010, Bely & Golubkov 2008, Tsurykau & Khramchankova 2008, 2010a, Tsurykau et al. 2009, Bely 2010a, 2011a, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, 2004b, 2005, Yurchenko 2011, Yatsyna 2016c), MI (Golubkov 1987, Golubkov & Yesis 1997a, Yurchenko 2011, Bely 2011a, Bely & Nikolaichuk 2012, Yatsyna 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Golubkov et al. 2013), MO (Bely 2011a), VI (Bely & Golubkov 2008, Yatsyna 2010c, 2010d, 2011a, 2017), no exact locality (Yatsyna 2009e): cor Acn, Acp, Acs, Ahi, Aln, Bet, Car, Fre, Jug, Pce, Poa, Pob, Pon, Pot, Pyr, Qur, Rob, Sal, Sor, Til, Ulm.
440. **Physconia grisea** (Lam.) Poelt – BR (Krawiec 1938, Kobzar 2006, Bely 2011a), GO (Ges 1960, Golubkov & Vynaev 1981, Golubkov 1992, 2007, 2011, Kravchuk 2001, Kobzar 2006, Tsurykau & Khramchankova 2007, 2008, 2010a, Tsurykau & Tsurikova 2017), GR (Golubkov 1987, 2014a, Golubkov & Khartanovich 2004b, 2005, Kobzar 2006, Yatsyna 2016c), MI (Gorbach 1955, 1961, Golubkov & Vynaev 1981, Kravchuk & Kakareka 1995, Kobzar 2006, Mavrishev & Dyukova 2008a, Yatsyna 2012b, 2013b, 2013c, 2014a, 2014b, Golubkov et al. 2013, Dobysh & Gaevskii 2016), MO (Kravchuk & Kakareka 1998, Kobzar 2006), VI (Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1991), no exact locality (Gorbach 1956, 1957, 1962): cor, lig Acn, Acp, Acs, Ahi, Aln, Bet, Car, Fre, Pic, Poa, Pon, Pot, Ppa, Pyr, Qur, Sal, Sor, Til, Ulm.
441. **Physconia muscigena** (Ach.) Poelt – no exact locality (Yatsyna & Merzhvinsky 2012): not indicated.
442. **Physconia perisidiosa** (Erichsen) Moberg – BR (Yatsyna 2014d), GO (Tsurykau & Khramchankova 2007, Yurchenko 2011, Golubkov 2011, Bely 2011a), GR (Golubkov & Khartanovich 2005, Yatsyna 2010g, 2016c, Golubkov 2014a), MI (Golubkov & Yesis 1997a, Yatsyna & Golubkov 2009, Yatsyna 2010a, 2012b, 2013b, 2013c, 2014a, 2014b, 2015c, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Yatsyna 2009b), VI (Bely & Golubkov 2008, Yatsyna 2010c, Gapienko et al. 2014), no exact locality (Golubkov 1987): cor Acp, Bet, Fre, Pot, Qur, Til.
443. **Piccolia ochrophora** (Nyl.) Hafellner – GO (Golubkov 2011): cor Sal.
444. **Placidium squamulosum** (Ach.) Breuss – GR (Golubkov 2013b, Yatsyna 2016c), VI (Golubkov 1996): cal, ter.
445. **Placynthiella dasaea** (Stirt.) Tønsberg – GO (Bely 2011a), VI (Bely 2011a), no exact locality (Makarova 2003): lig.
446. **Placynthiella hyporhoda** (Th. Fr.) Coppins & P. James – GO (Golubkov 2011, Yatsyna 2013a), MI (Yatsyna 2013a), MO (Yatsyna 2013a), VI (Kreyer 1913, Yatsyna 2010c, 2011a): ter.
447. **Placynthiella icmalea** (Ach.) Coppins & P. James – BR (Bely 2012a), GO (Bely 2011a, Tsurykau & Tsurikova 2017), GR (Yatsyna 2010g), MI (Bely 2011a, Yatsyna 2013a, 2014a), MO (Yatsyna 2013a), VI (Yatsyna 2010c, 2011a, 2017), no exact locality (Makarova 2003): lig, roo, ter Pic, Pin.
448. **Placynthiella oligotropha** (J.R. Laundon) Coppins & P. James – GO (Golubkov 2011, Bely 2011a), MI (Bely 2011a, Yatsyna 2013a), MO (Yatsyna 2009b), VI (Golubkov 1992, Yatsyna 2010c): lig, roo, ter Pic.
449. **Placynthiella uliginosa** (Schr.) Coppins & P. James – BR (Filipowicz 1881, Golubkov 1987, Yurchenko 2011, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Bely 2010a, Golubkov 2011, Yatsyna 2013a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a), MI (Savicz & Savicz 1924, Savicz 1925, Golubkov & Vynaev 1981,

Golubkov 1992, Golubkov & Yesis 1997b, Chernyshov 2003, Yatsyna 2009d, 2010a, 2013a, 2017, Bely 2011a), MO (Yatsyna 2013a), VI (Yatsyna 2010c, 2013a, Bely 2011a): lig, mus, ter Pic, Pin.

450. **Placynthium nigrum** (Huds.) Gray – GR (Golubkov 2013b, Yatsyna 2013d), MI (Golubkov 2013b), VI (Yatsyna 2011e): cal.
451. **Platismatia glauca** (L.) W. L. Culb. & C. F. Culb. – BR (Krawiec 1938, Golubkov 1987, Bely 2011a, Yatsyna 2013a, Tsurikova 2013), GO (Savicz 1911, Ges 1960, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Golubkov 1992, Tsurykau 2005, Tsurykau et al. 2009, Bely 2011a, Tsurikova 2013, Yatsyna 2014d), GR (Błoński 1889, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2010g, 2013a, Bely 2011a), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov 1992, Kobzar 1997, Yatsyna 2005, 2010a, 2010f, 2013a, 2013c, 2014a, Bely 2010c, 2011a, Yurchenko 2011), MO (Yatsyna 2009b, 2013a, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1978, Insarov & Pchelkin 1982, Golubkov 1991, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2013a, 2017, Bely 2011a), no exact locality (Gorbach 1957, Yatsyna 2009e): cor, lig Acp, Aln, Bet, Car, Jun, Mal, Pce, Pic, Pin, Pot, Pyr, Qur, Sal, Ulm.
452. **Pleurosticta acetabulum** (Neck.) Elix & Lumbsch – BR (Golubkov et al. 2007b), GO (Kreyer 1913, Ljubitskaja 1914, Golubkov & Vynaev 1981, Golubkov 1992, Kravchuk 2001, Tsurykau 2005, Tsurykau & Khramchankova 2008, 2010a, Tsurykau et al. 2009, Bely 2011a, Tsurikova 2013), GR (Golubkov 1987, 1992, 2014a, Golubkov & Khartanovich 2004a, Golubkov et al. 2007b, Yatsyna 2010g, 2016c), MI (Bachmann & Bachmann 1920, Gorbach 1965d, Golubkov & Vynaev 1981, Golubkov 1992, Yatsyna 2005, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Kobzar 2006, Yatsyna & Yurchenko 2013), MO (Yatsyna 2009b), VI (Kreyer 1913, Golubkov 1987, 1992, Kravchuk 2001, Yatsyna 2010c, 2011a, Yurchenko 2011): cor Acn, Acp, Bet, Fre, Poa, Pob, Pon, Pot, Qur, Til.
453. **Polycauliona candelaria** (L.) Frödén, Arup & Söchting – BR (Krawiec 1938, Yatsyna 2010e, Yatsyna & Kondratyuk 2013), GO (Wyssotzky et al. 1925, Golubkov 1992, Kravchuk 2001, Tsurykau & Khramchankova 2008, 2010a, Tsurykau & Tsurikova 2017), GR (Gilibert 1781, 1792, Yatsyna 2010e, 2010g, 2016c, Yatsyna & Kondratyuk 2013, Golubkov 2014a), MI (Golubkov & Vynaev 1981, Golubkov 1992, Kravchuk & Kakareka 1995, Kobzar 2006, Yatsyna 2010a, 2010e, 2012b, 2013b, 2013c, 2014a, 2014b, Bely 2011a, Yatsyna & Kondratyuk 2013, Yatsyna & Yurchenko 2013), MO (Yatsyna 2010e, Yatsyna & Kondratyuk 2013), VI (Golubkov 1992, Kravchuk 2001, Golubkov & Kobzar 2007, Yatsyna 2010c, 2011a, Yatsyna & Kondratyuk 2013), no exact locality (Gorbach 1965d): cor Acp, Act, Ahi, Aln, Bet, Fre, Pon, Qur, Sal, Til, Ulm.
454. **Polycauliona phlogina** (Ach.) Arup, Frödén & Söchting – no exact locality (Kondratyuk et al. 2004): not indicated.
455. **Polycauliona polycarpa** (Hoffm.) Frödén, Arup & Söchting – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Yatsyna 2010e, 2014d, Bely 2011a, Bely & Kudin 2016), GO (Ljubitzkaja 1914, Wyssotzky et al. 1925, Ges 1960, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Kravchuk 2000, 2001, Yurchenko & Golubkov 2003, Tsurykau 2005, 2010, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2010a, Bely 2010a, 2011a, Yatsyna 2010e, Yurchenko 2011, Golubkov 2011, Sobchanka et al. 2012, Tsurykau et al. 2013a, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Kobzar 2006, Yatsyna 2010e, 2010g, 2016c, Yurchenko 2011, Bely 2011a, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1965b, Golubkov & Vynaev 1981, Shukanov et al. 1986, Kravchuk & Kakareka 1995, Vyazovskaya & Golubkov 1997, Yurchenko & Golubkov 2003, Chernyshov 2003, Yatsyna 2005, 2010a, 2010e, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Mavrishev & Dyukova 2008a, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Dobysh & Gaevskii 2016), MO (Savicz 1925, Kravchuk & Kakareka 1998, Yatsyna 2009b, 2010e, Bely 2011a), VI (Kreyer 1913, Gorbach 1965d, Golubkov 1987, 1991, 1992, Yurchenko & Golubkov 2003, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010e, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, Golubkov 2000): cor, lig, sil Abi, Acd, Acn, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Fre, Jug, Lar, Mal, Pce, Pdi, Pdo, Pic, Pma, Poa, Pob, Poc, Pon, Pot, Ppa, Pse, Pyr, Qur, Rib, Rob, Sal, Sor, Til, Ulm.



456. **Polycauliona ucrainica** (S.Y. Kondr.) Frödén, Arup & Söchting – BR (Yatsyna & Kondratyuk 2013), GO (Golubkov 2011, 2013a), GR (Golubkov 2013a, Yatsyna & Kondratyuk 2013, Yatsyna 2016c), MI (Yatsyna 2010a, 2010e, 2012b, 2013c, 2014b, 2015c, Yatsyna & Kondratyuk 2013, Golubkov 2013a), MO (Yatsyna & Kondratyuk 2013), VI (Yatsyna 2010e, 2013f, Golubkov 2013a, Yatsyna & Kondratyuk 2013), no exact locality (Kondratyuk 2004): cor, lig Acp, Aln, Bet, Lar, Pic, Pis, Pon, Pot, Qur, Sor, Til. – Note: The report by Tsurykau & Khramchankova (2008) is erroneous and belongs to *P. candelaria* (see, Tsurykau 2013a).
457. **Polysporina simplex** (Davies) Vězda – BR (Golubkov 1987), GR (Yurchenko 2011), VI (Golubkov 1996): cal.
458. **Porpidia cinereoatra** (Ach.) Hertel & Knoph – GO (Kobzar 2006), VI (Kreyer 1913): sil.
459. **Porpidia crustulata** (Ach.) Hertel & Knoph – BR (Krawiec 1938, Yurchenko 2011), GO (Savicz 1911, Golubkov 1992), GR (Bachmann & Bachmann 1920, Golubkov 2014a), MI (Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Chernyshov 2004c, Yurchenko 2011, Yatsyna 2013a), VI (Kreyer 1913, Golubkov 1992, Bely & Golubkov 2012): sil.
460. **Porpidia macrocarpa** (DC.) Hertel & A. J. Schwab – GR (Bachmann & Bachmann 1920), MI (Golubkov & Yesis 1997b, Yatsyna & Stefanovich 2005): sil.
461. **Porpidia soledizodes** (Lamy) J.R. Laundon – BR (Golubkov 1987): sil.
462. **Protoblastenia rupestris** (Scop.) J. Steiner – GR (Golubkov 2008, 2013b, Yatsyna 2016c), MI (Golubkov 2013b): cal.
463. **Protoparmelia badia** (Hoffm.) Hafellner – GR (Yatsyna 2015d): sil.
464. **Protoparmelia hypotremella** van Herk, Spier & V. Wirth – GO (Tsurykau et al. 2016a): cor Pin.
465. **Protoparmeliopsis muralis** (Schreb.) M. Choisy – BR (Golubkov 1987), GO (Savicz 1911, Golubkov & Vynaev 1981, Tsurykau & Khramchankova 2009a, Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov 1987, 1997, 2014a, Yatsyna 2010g, 2016c), MI (Golubkov & Vynaev 1981, Yatsyna 2010a, 2012b, 2013c, 2013b, 2014a, 2014b, 2015c, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013, Golubkov et al. 2013), MO (Savicz 1925, Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Golubkov 1991, 1992, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, Yurchenko 2011): cal, lig, sil.
466. **Pseudevernia furfuracea** (L.) Zopf – BR (Tessendorff 1922, Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Savicz 1909, Wyssotzky et al. 1925, Ges 1960, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Kravchuk 2000, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, Tsurykau et al. 2009, Bely 2010a, 2011a, Tsurikova 2013, Yatsyna 2014d, Tsurykau & Tsurikova 2017), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Kravchuk 2001, Kobzar 2006, Yatsyna 2010g, 2013a, Bely 2011a), MI (Bachmann & Bachmann 1920, Savicz & Savicz 1924, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1992, Kobzar 1997, 2006, Kravchuk 2001, Chernyshov 2003, Yatsyna 2005, 2009d, 2010a, 2010f, 2012b, 2013a, 2013b, 2013c, 2014a, 2014b, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013), MO (Kreyer 1913, Savicz 1925, Kravchuk & Kakareka 1998, Yatsyna 2004, 2009b, 2013a, Kobzar 2006), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Gorbach & Getko 1978, Insarov & Pchelkin 1982, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010f, 2011a, 2013a, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957, Yatsyna 2009e): cor, lig, mus, sil Acp, Aln, Bet, Car, Fre, Pce, Pic, Pin, Pis, Poa, Pon, Pot, Pyr, Qur, Sal, Sor, Til, Ulm.

467. **Pseudosagedia aenea** (Wallr.) Hafellner & Kalb – BR (Makarevich 1960, Bely 2011a, Yatsyna 2014d), MI (Bely 2011a, Yatsyna 2013c, 2014a, 2015c), VI (Gapienko et al. 2014, Yatsyna 2017): cor Acp, Aln, Car, Coa, Pic, Pot.
468. **Pseudoschismatomma rufescens** (Pers.) Ertz & Tehler – BR (Gorbach 1973b, Golubkov 1987, Yatsyna 2014d, Bely & Kudin 2016), GO (Golubkov & Vynaev 1981, Golubkov 1992, Tsurykau & Khramchankova 2009b, Bely 2010a), GR (Bachmann & Bachmann 1920, Yatsyna 2016c), MI (Bachmann & Bachmann 1920, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov 1992, Yatsyna 2012b, 2013b, 2013c, 2014a, 2014b, 2015c), MO (Kobzar 2006), VI (Gorbach & Mashenkova 1967, Golubkov 1992, Yatsyna 2010d, 2011e, Bely 2011a), no exact locality (Tomin 1939, Gorbach 1956, 1957, Golubkov 1992): cor Acp, Aln, Bet, Car, Coa, Fre, Pin, Pot, Qur, Til, Ulm.
469. **Psilolechia clavulifera** (Nyl.) Coppins – MI (Yatsyna & Motiejūnaite 2015), VI (Yatsyna 2017): roo Pic.
470. **Psilolechia lucida** (Ach.) M. Choisy – GO (Bely 2011a, Yatsyna 2012e, Tsurykau & Tsurikova 2017), MI (Kobzar 2006, Bely 2011a, Yatsyna 2011c, 2013b), MO (Yatsyna 2011c), VI (Bely 2011a, Yatsyna 2011e, 2017): cal, cor, lig, roo Car, Pic, Pin.
471. **Psoroglaena dictyospora** (Orange) H. Harada – MI (Yatsyna 2014a): cor Fre.
472. **Punctelia subrudecta** (Nyl.) Krog – BR (Golubkov 1985), GO (Golubkov 1986, 1992, 2010, Bely 2010a, Yatsyna 2011d, Tsurykau et al. 2015), VI (Yatsyna 2011d): cor Aln, Fre, Qur, Sal.
473. **Punctelia jeckeri** (Roum.) Kalb – GO (Tsurykau et al. 2015): cor Aln, Qur.
474. **Pycnora sorophora** (Vain.) Hafellner – GO (Tsurykau et al. 2012, Yatsyna 2012d, Tsurykau & Khramchankova 2015), MI (Yatsyna 2012d, 2015c), MO (Yatsyna 2012d), VI (Yatsyna 2012d): cor Pin.
475. **Pycnothelia papillaria** Dufour – GO (Golubkov 1992, 2011), GR (Golubkov 2014a), MI (Bachmann & Bachmann 1920, Tsetterman 1948, Golubkov 1992, Yurchenko 2011), VI (Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007), no exact locality (Gorbach 1965d, Golubkov 1992, Bely 2015a): ter.
476. **Pyrenula coryli** (Nyl.) A. Massal. – VI (Kreyer 1913, Kobzar 1983), no exact locality (Gorbach 1956, 1957, 1962): cor Car, Coa, Sor, Ulm.
477. **Pyrenula laevigata** (Pers.) Arnold – BR (Golubkov 1987), VI (Kreyer 1913, Insarov & Pchelkin 1982, Kobzar 2006, Bely 2011a), no exact locality (Gorbach 1956, 1957): cor Acp, Bet, Car, Fre, Pin, Pot.
478. **Pyrenula nitida** (Weigel) Ach. – BR (Golubkov 1987, Yatsyna 2014d), GO (Wyssotzky et al. 1925, Golubkov & Vynaev 1981), GR (Golubkov 1992), MI (Golubkov & Vynaev 1981, Yatsyna 2012b, 2013b, 2014a, 2015c), MO (Yatsyna 2012a), VI (Yatsyna 2010c, 2011a), no exact locality (Gorbach 1956, 1957): cor Car, Coa, Fre, Poa, Ulm.
479. **Pyrenula nitidella** (Flörke ex Schaer.) Müll. Arg. – BR (Golubkov 1987), GO (Wyssotzky et al. 1925, Golubkov 1992, Yurchenko 2011), GR (Golubkov 1987), MI (Golubkov 1992, Golubkov & Yesis 1997a), MO (Bely & Golubkov 2009a), VI (Kobzar 2006, Bely & Golubkov 2009a), no exact locality (Gorbach 1956, 1957, Golubkov 1992): cor Acp, Car, Coa, Fre.
480. **Pyrrhospora quernea** (Dicks.) Körb. – VI (Insarov & Pchelkin 1982), MI (Yatsyna 2013b, 2013c, Yatsyna & Yurchenko 2013): cor Lar, Pin, Til.
481. **Ramalina baltica** Lettau – BR (Gorbach 1973b), GO (Wyssotzky et al. 1925, Golubkov & Vynaev 1981, Golubkov 1992, 2011, Tsurykau & Khramchankova 2007, Tsurykau et al. 2009, Bely 2011a), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Yatsyna 2016b, 2016c), MI (Bachmann & Bachmann 1920, Oksner 1924, Golubkov & Vynaev 1981, Kobzar 2006, Yatsyna 2012c, 2013b, 2013c,



- 2016b, Golubkov et al. 2013), MO (Savicz & Savicz 1924, Savicz 1925), VI (Gorbach & Mashenkova 1967, Golubkov 1987, Kobzar 2006, Yurchenko 2011, Yatsyna 2011e, 2016b, Bely 2015b), no exact locality (Golubkov 1992): cor, lig Acp, Aln, Car, Fre, Lar, Mal, Pic, Pot, Pyr, Qur, Sal, Sor, Til.
482. **Ramalina calicaris** (L.) Fr. – GO (Wyssotzky et al. 1925, Yatsyna 2016b), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Yatsyna 2016b), MI (Oksner 1924, Gorbach 1955, Bely & Golubkov 2012, Yatsyna 2013a, 2016b, Golubkov et al. 2013), VI (Bely 2011a, Bely & Golubkov 2012, Gapienko et al. 2014), no exact locality (Gorbach 1956, 1957): cor Acp, Aln, Bet, Car, Fre, Pic, Pin, Pot, Qur, Sal, Sor, Til.
483. **Ramalina dilacerata** (Hoffm.) Hoffm. – GO (Ljubitskaja 1914), VI (Kreyer 1913, Bely & Golubkov 2009a, Bely 2011a): cor Pic, Qur, Sor.
484. **Ramalina elegans** (Bagl. & Carestia) Stizenb. – MI (Golubkov & Kobzar 2005, Yatsyna 2010a, Bely & Golubkov 2012), VI (Bely 2011a): cor Pot, Sal.
485. **Ramalina farinacea** (L.) Ach. – BR (Gorbach 1963, Golubkov 1987, Kobzar 2006, Yurchenko 2011, Bely 2011a, Yatsyna 2013a, 2014d, 2016b, Bely & Kudin 2016), GO (Savicz 1909, Wyssotzky et al. 1925, Ges 1960, Gorbach 1965d, Palamarchuk et al. 1975, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Kravchuk 2000, Tsurykau 2005, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, 2010a, Tsurykau et al. 2009, Bely 2010a, 2011a, Golubkov 2011, Yatsyna 2014d, 2016b), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, 2004b, Kobzar 2006, Andreeva et al. 2006, Yatsyna 2010g, 2013a, 2016b, 2016c, Yurchenko 2011, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz 1925, Gorbach 1955, 1961, 1963, Golubkov & Vynaev 1981, Shukanov et al. 1986, Kravchuk & Kakareka 1995, Kobzar 1997, 2006, Yatsyna 2005, 2010a, 2012b, 2012c, 2013a, 2013b, 2013c, 2014a, 2014b, 2015c, 2016b, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Downar 1861, Kreyer 1913, Savicz & Savicz 1924, Savicz 1925, Gorbach 1963, Kravchuk & Kakareka 1998, Yatsyna 2009b, 2012a, 2016b, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1963, 1973b, 1978, Gorbach & Mashenkova 1967, Golubkov 1991, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2011a, 2016b, 2017, Bely & Golubkov 2008, Bely 2011a), no exact locality (Gorbach 1956, 1957): cor Acp, Aln, Bet, Car, Coa, Fre, Mal, Pic, Pin, Poa, Poc, Pon, Pot, Pyr, Qup, Qur, Sal, Sor, Til, Ulm, on Lobaria pulmonaria.
486. **Ramalina fastigiata** (Pers.) Ach. – BR (Golubkov 1987, Yatsyna 2013a), GO (Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov 1992, 2014a, Yurchenko 2011, Yatsyna 2016b, 2016c), MI (Bachmann & Bachmann 1920, Golubkov & Vynaev 1981, Golubkov & Yesis 1997b, Yatsyna 2005, 2010a, 2012b, 2013b, 2013c, 2014a, 2014b, 2015c, Kobzar 2006, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Downar 1861, Kreyer 1913, Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Golubkov 1987, 1992, Golubkov & Kobzar 2007, Bely 2011a, Gapienko et al. 2014), no exact locality (Gorbach 1973b, Golubkov 1992): cor, lig Acp, Fre, Pic, Poa, Pon, Pot, Qur, Sal, Til, Ulm.
487. **Ramalina fraxinea** (L.) Ach. – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Yatsyna 2013a, 2014d, 2016b, Bely & Kudin 2016), GO (Savicz 1909, Wyssotzky et al. 1925, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsurykau 2005, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, Tsurykau et al. 2009, Bely 2010a, Golubkov 2011, Yatsyna 2016b), GR (Gilibert 1781, Bachmann & Bachmann 1920, Gorbach 1978, Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, 2004b, 2005, Kobzar 2006, Yatsyna 2010g, 2016b, 2016c, Yurchenko 2011), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Kobzar 1997, 2006, Chernyshov 2003, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, 2016c, Yurchenko 2011, Bely 2011a, Yatsyna & Yurchenko 2013), MO (Downar 1861, Kreyer 1913, Savicz & Savicz 1924, Savicz 1925, Yatsyna 2009b, 2012a, 2016b, Bely 2011a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1963, Gorbach & Mashenkova 1967, Golubkov 1991, Yatsyna 2010c, 2010d, 2011a, 2016b, 2017, Bely 2011a), no exact locality (Gorbach 1956, 1957): cor Acp, Aln, Bet, Car, Fre, Mal, Pic, Poa, Poc, Pon, Pot, Pyr, Qur, Rob, Sal, Sor, Til, Ulm.
488. **Ramalina pollinaria** (Westr.) Ach. – BR (Golubkov 1987, Yurchenko 2011, Bely 2011a, Yatsyna 2014d, 2016b, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, 1914, Wyssotzky et al. 1925, Ges 1960,

Danilchuk et al. 1976, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Tsurykau 2005, 2017a, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, Tsurykau et al. 2009, Bely 2010a, 2011a, Golubkov 2011, Yatsyna 2014d), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Golubkov & Khartanovich 2004a, Kobzar 2006, Andreeva et al. 2006, Yatsyna 2016b, 2016c), MI (Oksner 1924, Savicz 1925, Gorbach 1955, 1961, 1963, Golubkov & Vynaev 1981, Yatsyna 2005, 2010a, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, 2016b, Kobzar 2006, Yatsyna & Yurchenko 2013), MO (Savicz & Savicz 1924, Savicz 1925, Gorbach 1963, Kobzar 2006, Yatsyna 2009b, 2016b), VI (Kreyer 1913, 1914, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1991, Golubkov & Kobzar 2007, Yatsyna 2010c, 2010d, 2016b, 2017), no exact locality (Gorbach 1956): cal, cor, lig Acp, Acs, Aln, Bet, Car, Fre, Pic, Pon, Pot, Pyr, Qup, Qur, Sal, Sor, Til.

489. **Ramalina sinensis** Jatta – BR (Gorbach 1963, Yatsyna 2016b), no exact locality (Gorbach 1962): cor Acp, Car, Qur.
490. **Ramalina subfarinacea** (Nyl. ex Cromb.) Nyl. – VI (Yatsyna 2013f): sil. – Note: Reports by Bely (2010a, 2011a) are erroneous and belong to *R. farinacea* (Bely, pers. comm.). Also the report on *Picea abies* bark by Oksner (1925) seems to be doubtful given that the species is typically saxicolous.
491. **Ramalina thrausta** (Ach.) Nyl. – BR (Krawiec 1938, Gorbach 1973b, Golubkov 1987), GO (Golubkov & Kobzar 2005), MI (Savicz 1925, Golubkov & Vynaev 1981, Yatsyna 2016b), MO (Savicz & Savicz 1924, Savicz 1925), VI (Kreyer 1913, Golubkov 1992), no exact locality (Gorbach 1965d): cor Coa, Pic, Qur.
492. **Ramboldia elabens** (Fr.) Kantvilas & Elix – BR (Golubkov 1987): lig.
493. **Reichlingia leopoldii** Diederich & Scheid. – MI (Yatsyna 2014a): cor Fre, Qur.
494. **Rhizocarpon badioatrum** (Flörke ex Spreng.) Th. Fr. – VI (Kreyer 1913, Matwiejuk & Golubkov 2012): sil.
495. **Rhizocarpon distinctum** Th. Fr. – GR (Bachmann & Bachmann 1920, Golubkov 1987, Golubkov & Matwiejuk 2009, Yatsyna 2016c), MI (Golubkov 1997), VI (Bachmann & Bachmann 1920, Gorbach 1973b, Yatsyna 2010c), no exact locality (Golubkov 1992): sil. – Note: The report by Kreyer (1913) seems to be doubtful based on the negative I reaction of the medulla.
496. **Rhizocarpon geographicum** (L.) DC. – GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Bely & Golubkov 2008, Golubkov & Matwiejuk 2009), MI (Golubkov 2002, Bely & Golubkov 2008, Matwiejuk & Golubkov 2012, Yatsyna & Yurchenko 2013), MO (Yatsyna 2009b), VI (Golubkov 1992, Bely & Golubkov 2008, Yatsyna 2010c): sil.
497. **Rhizocarpon grande** (Flörke ex Flot.) Arnold – GR (Bachmann & Bachmann 1920, Golubkov & Matwiejuk 2009), MI (Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1997), MO (Savicz 1925, Matwiejuk & Golubkov 2012), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1973b, Matwiejuk & Golubkov 2012), no exact locality (Golubkov 1992): sil.
498. **Rhizocarpon hochstetteri** (Körb.) Vain. – GR (Golubkov & Matwiejuk 2009): sil.
499. **Rhizocarpon lavatum** (Fr.) Hazsl. – GO (Ljubitzkaja 1914), GR (Golubkov & Matwiejuk 2009), MI (Golubkov & Matwiejuk 2010): sil.
500. **Rhizocarpon lecanorinum** Anders – GR (Yatsyna & Motiejūnaite 2015): sil.
501. **Rhizocarpon obscuratum** (Ach.) A. Massal. – GR (Bely & Golubkov 2008), MI (Golubkov 1997, Yurchenko 2011), VI (Bely & Golubkov 2008): sil.
502. **Rhizocarpon petraeum** (Wulfen) A. Massal. – BR (Golubkov 1987), GR (Bachmann & Bachmann 1920, Golubkov & Matwiejuk 2009), VI (Golubkov & Matwiejuk 2010): sil.



503. **Rhizocarpon polycarpum** (Hepp) Th. Fr. – GR (Golubkov & Matwiejuk 2009), MI (Matwiejuk & Golubkov 2012), VI (Matwiejuk & Golubkov 2012): sil.
504. **Rhizocarpon reductum** Th. Fr. – GR (Bachmann & Bachmann 1920, Golubkov & Matwiejuk 2009), MI (Golubkov & Yesis 1997a, Golubkov 1997, Chernyshov 2003), VI (Kreyer 1913, Tomin 1956): sil.
505. **Rhizocarpon subpostumum** (Nyl.) Arnold – GR (Bachmann & Bachmann 1920): sil.
506. **Rhizocarpon timdalii** Ihlen & Fryday – VI (Golubkov & Matwiejuk 2010) sil.
507. **#Rhizocarpon viridiatrum** (Wulfen) Körb. – GR (Yatsyna 2015d): sil.
508. **Rinodina bischoffii** (Hepp) A. Massal. – GR (Yatsyna & Motiejūnaite 2015): cal.
509. **Rinodina conradii** Körb. – MI (Tomin 1956): lig.
510. **Rinodina exigua** (Ach.) Gray – GO (Savicz 1909, Golubkov 1992), GR (Bachmann & Bachmann 1920, Golubkov 1987, Golubkov & Khartanovich 2004a, 2004b, 2005), MI (Bachmann & Bachmann 1920, Golubkov & Vynaev 1981, Bely 2011a, Yatsyna 2012b, Yatsyna & Yurchenko 2013), VI (Kravchuk 2001, Yatsyna 2010c): cor, lig Aln, Fre, Lar, Pon, Pot, Qur, Til.
511. **Rinodina gennarii** Bagl. – MI (Golubkov & Yesis 1997b): not indicated.
512. **Rinodina oxydata** (A. Massal.) A. Massal. – GR (Bachmann & Bachmann 1920, Yatsyna 2016c): sil.
513. **Rinodina polyspora** Th. Fr. – GO (Savicz 1909, Golubkov 1992), GR (Bachmann & Bachmann 1920), MO (Kreyer 1913), no exact locality (Gorbach 1962): cor Aln, Bet, Pyr, Pot.
514. **Rinodina pyrina** (Ach.) Arnold – BR (Kobzar 2006, Bely 2011a, Bely & Kudin 2016), GO (Bely 2010a, Yatsyna 2013a, Tsurykau & Tsurikova 2017), GR (Bachmann & Bachmann 1920, Golubkov 1987), MI (Gorbach 1961, Golubkov & Yesis 1997b, Chernyshov 2003, Kobzar 2006, Bely 2011a, Bely & Nikolaichuk 2012, Yatsyna 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013), MO (Yatsyna 2013a): cor, lig Ahi, Bet, Fre, Pic, Pon, Pot, Sor, Qur, Sal, Til.
515. **Rinodina sophodes** (Ach.) A. Massal. – BR (Kobzar 2006), GO (Savicz 1909), GR (Bachmann & Bachmann 1920), MI (Golubkov & Yesis 1997b), VI (Golubkov 1992), no exact locality (Gorbach 1956, 1957): cor, lig Bet, Pot, Qur, Sor.
516. **Rinodina teichophila** (Nyl.) Arnold – GR (Yatsyna 2015d), VI (Kreyer 1913): sil.
517. **Ropalospora viridis** (Tønsberg) Tønsberg – GO (Tsurykau et al. 2016a): cor Pin.
518. **Rusavskia elegans** (Link) S.Y. Kondr. & Kärnefelt – BR (Yatsyna 2010e, 2014d, Yurchenko 2011, Yatsyna & Kondratyuk 2013), GO (Tsurykau 2005, Tsurykau & Khramchankova 2009a, Yatsyna 2010e, Golubkov 2011, Sobchanka et al. 2012, Yatsyna & Kondratyuk 2013), GR (Golubkov 1987, 1993, Yatsyna 2010e, 2010g, 2016c, Yurchenko 2011, Yatsyna & Kondratyuk 2013), MI (Golubkov 1987, 1992, 1993, Yatsyna & Stefanovich 2005, Yatsyna 2010a, 2010e, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013, Yatsyna & Kondratyuk 2013), MO (Yatsyna 2009b, 2010e, Yatsyna & Kondratyuk 2013), VI (Golubkov 1996, Bely & Golubkov 2008, Yatsyna 2008, 2010c, 2010d, 2010e, 2011a, Yatsyna & Kondratyuk 2013): cal, sil.
519. **Sarcogyne regularis** Körb. – GO (Bely & Golubkov 2008), GR (Yurchenko 2011, Golubkov 2014b), MI (Golubkov & Vynaev 1981, Yatsyna 2010a, Yurchenko 2011), VI (Kreyer 1913, Golubkov 1992, Bely & Golubkov 2008, Yatsyna 2010d, 2013f, Yurchenko 2011): cal.

520. **Sarcosagium campestre** (Fr.) Poetsch & Schied. – VI (Yatsyna 2011e, 2017): mus, ter.
521. **+Sarea difformis** (Fr.) Fr. – GO (Yatsyna 2014d), MI (Yatsyna 2011c, 2015c), MO (Yatsyna 2011c), VI (Yatsyna 2011e, 2017): res Pic, Pin.
522. **+Sarea resinae** (Fr.) Kuntze – GO (Golubkov 2010), MI (Yatsyna 2011c, 2014a, 2015c), MO (Lebedeva 1925, Yatsyna 2011c), VI (Yatsyna 2011c, 2011e, 2017): res Pic, Pin, Pis.
523. **Schaereria fuscocinerea** (Nyl.) Clauzade & Roux – VI (Kreyer 1913): cal.
524. **Schismatomma pericleum** (Ach.) Branth & Rostr. – BR (Makarevich 1960), GO (Golubkov 2011, Yatsyna & Motiejūnaite 2015), MI (Kobzar 2006), no exact locality (Gorbach 1962): cor, lig Bet, Pic, Qur.
525. **Sclerophora farinacea** (Chevall.) Chevall. – MI (Yatsyna 2014a, 2016a): cor Fre, Ulm.
526. **Sclerophora pallida** (Pers.) Y.J. Yao & Spooner – BR (Bely & Golubkov 2012), GO (Bely 2011a), GR (Yatsyna 2016a, 2016c), MI (Yatsyna 2011e, 2012c, 2013b, 2013c, 2014a, 2014b, 2015c, 2016a, Yatsyna & Yurchenko 2013), VI (Bely 2011a, Yatsyna 2011a, 2016a): cor Acp, Aln, Fre, Pin, Pot, Sal, Til, Ulm.
527. **Sclerophora peronella** (Ach.) Tibell – MI (Yatsyna 2014a, 2016a), VI (Yatsyna 2013f, 2016a): cor Poc, Til, Ulm.
528. **Scoliciosporum chlorococcum** (Graewe ex Stenh.) Vězda – BR (Golubkov 1987), GO (Golubkov 1992), GR (Makarevich 1960, Golubkov & Khartanovich 2004b, Yatsyna 2010g, Golubkov 2014a), MI (Golubkov 1992, Yatsyna 2010a, 2012b, 2013b, 2013c, 2015c, Bely 2011a, Yatsyna & Yurchenko 2013), VI (Kravchuk 2001, Yurchenko 2011, Bely 2011a, Yatsyna 2013a): cor Abi, Ahi, Aln, Bet, Fre, Pic, Pin, Sor, Til.
529. **Scoliciosporum umbrinum** (Ach.) Arnold – GR (Bachmann & Bachmann 1920), GR (Yatsyna 2016c), MI (Yatsyna 2010h, 2012b, Bely 2011a), VI (Kobzar 2006): cal, cor, sil Fra, Pic, Pot.
530. **Scytinium gelatinosum** (With.) Otálora, P.M. Jørg. & Wedin – GO (Golubkov 1992): cor Sal.
531. **Scytinium lichenoides** (L.) Otálora, P.M. Jørg. & Wedin – GR (Bachmann & Bachmann 1920, Golubkov & Bludov 2005, Golubkov 2013b, Yatsyna 2013d, Yatsyna & Motiejūnaite 2015): cor, mus Sal.
532. **Scytinium subtile** (Schrad.) Otálora, P.M. Jørg. & Wedin – GO (Golubkov 1992), VI (Kreyer 1913, Golubkov & Kobzar 2007, Bely 2011a, 2014): cor, lig, mus, ter Pin, Pot, Qur, Sal.
533. **Scytinium tenuissimum** (Dickson) Otálora, P.M. Jørg. & Wedin – VI (Kreyer 1913): ter.
534. **Sphinctrina turbinata** (Pers.: Fr.) De Not. – BR (Golubkov 1987), GO (Golubkov 1992), no exact locality (Tomin 1939): cor Car, on Pertusaria sp.
535. **Staurothele caesia** (Arnold) Arnold – MI (Yatsyna 2012b): cal.
536. **Staurothele drummondii** (Tuck.) Tuck. – GR (Golubkov 2013b): cal.
537. **Steinia geophana** (Nyl.) Stein – BR (Yatsyna & Motiejūnaite 2015), VI (Gapienko et al. 2014, Yatsyna 2017): mus, ter, on Peltigera didactyla.
538. **+Stenocybe major** Nyl. ex Körb. – GR (Golubkov 2014a), VI (Insarov & Pchelkin 1982): cor Bet Pin.
539. **+Stenocybe pullatula** (Ach.) Stein – GR (Yurchenko 2011), MI (Yatsyna 2014a, 2015c), VI (Titov 2006, Yatsyna 2013f): cor Aln.



540. **Stereocaulon condensatum** Hoffm. – BR (Krawiec 1938, Golubkov 1987, Yatsyna 2013a), GO (Ges 1960, Golubkov 1992), GR (Błoński 1889, Golubkov 1987), MI (Golubkov & Vynaev 1981, Golubkov 1992, Golubkov & Yesis 1997a, Yatsyna & Stefanovich 2005, Golubkov et al. 2013), VI (Kreyer 1913, Golubkov 1992, Yatsyna 2011a, 2011e), no exact locality (Tomin 1937, Golubkov 1992, Kobzar 1998): sil, ter.
541. **Stereocaulon dactylophyllum** Flörke – GR (Bachmann & Bachmann 1920), VI (Golubkov 1992): sil.
542. **Stereocaulon incrustatum** Flörke – BR (Krawiec 1938), GO (Golubkov 2011), GR (Golubkov 1993), VI (Golubkov 1993, Kobzar 2006): sil, ter.
543. **Stereocaulon paschale** (L.) Hoffm. – GO (Gorbach 1973b), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920), MI (Gorbach 1965d, Chernyshov 2003), VI (Gorbach 1973b), no exact locality (Gorbach 1965d, 1973b, Kobzar 1998): ter.
544. **Stereocaulon tomentosum** Fr. – BR (Tessendorff 1922, Krawiec 1938, Gorbach 1973b, Golubkov 1987, Yatsyna 2013a), GO (Savicz 1911, Golubkov & Vynaev 1981), GR (Bachmann & Bachmann 1920, Yatsyna 2010g), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Savicz 1925, Golubkov & Vynaev 1981, Golubkov 1992, Yatsyna & Stefanovich 2005, Yatsyna 2010a, Yurchenko 2011), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Yatsyna 2011a), no exact locality (Golubkov 1992): sil, ter.
545. **Strangospora moriformis** (Ach.) Stein – BR (Golubkov 1987, Yatsyna 2014d), GO (Golubkov 2011), GR (Bachmann & Bachmann 1920), MI (Golubkov & Yesis 1997b, Yatsyna 2013a, 2015a), MO (Yatsyna 2012a, 2013a), VI (Golubkov 1992, Yatsyna 2011a, 2011e, 2013a, 2017): cor, lig Jun, Pin, Pot.
546. **Tephromela atra** (Huds.) Hafellner – GO (Golubkov 1992), GR (Bachmann & Bachmann 1920, Bely & Golubkov 2012, Yatsyna 2016c), MI (Golubkov & Vynaev 1981, Bely & Golubkov 2012, Golubkov et al. 2013), MO (Yatsyna 2009b), VI (Kreyer 1913, Gorbach 1978, Bely & Golubkov 2012), no exact locality (Gorbach 1962): cal, cor, sil Aln, Pot. – Note: Several records of corticolous *T. atra* are included here, but their attribution to this taxon needs confirmation (Nimis 2016).
547. **Tetramelas insignis** (Nägeli ex Hepp) Kalb – BR (Golubkov 1987): cor Aln.
548. **Thelidium minutulum** Körb. – MI (Yatsyna & Yurchenko 2013): cal.
549. **Thelidium zwackhii** (Hepp) A. Massal. – VI (Gapienko et al. 2014): cor Aln.
550. **Thelocarpon impressellum** Nyl. – GR (Golubkov & Kobzar 2005): lig.
551. **Thelocarpon intermediellum** Nyl. – VI (Gapienko et al. 2014): lig Pin.
552. **Thelocarpon laureri** (Flot.) Nyl. – BR (Golubkov 1987), GO (Golubkov 2009b), VI (Kreyer 1913, Golubkov 1996, 2009b, Bely 2011a), no exact locality (Tomin 1956): lig, sil.
553. **#Thelocarpon lichenicola** (Fuckel) Poelt & Hafellner – VI (Yatsyna 2012d, 2017): ter.
554. **Thelotrema lepadinum** (Ach.) Ach. – BR (Golubkov 1987), GO (Golubkov 1992, 2007), GR (Makarevicz 1960, Golubkov 1987), MI (Bely 2011a), MO (Savicz 1925): cor, mus Car, Fre, Pic, Qur.
555. **Thrombium epigaeum** (Pers.) Wallr. – MI (Golubkov & Yesis 1997b): not indicated.
556. **Trapelia coarctata** (Turner ex Sm. & Sow.) M. Choisy – BR (Golubkov 1987), GO (Tsurykau & Khranchankova 2010b), GR (Bachmann & Bachmann 1920), MI (Golubkov & Yesis 1997b, Yurchenko 2011, Golubkov et al. 2013), VI (Golubkov 1992): cal, sil.

557. **Trapelia glebulosa** (Sm.) J.R. Laundon – GR (Bachmann & Bachmann 1920): sil.
558. **Trapelia involuta** (Taylor) Hertel – GO (Savicz 1911) GR (Bachmann & Bachmann 1920) VI (Kreyer 1913): sil.
559. **Trapeliopsis flexuosa** (Fr.) Coppins & P. James – BR (Golubkov 1987, Yurchenko 2011, Yatsyna 2014d), GO (Golubkov 2011, Yatsyna 2013a, Tsurykau & Khranchankova 2015), GR (Yatsyna 2010g, 2013a, Yurchenko 2011, Golubkov 2014a), MI (Bachmann & Bachmann 1920, Yatsyna 2009d, 2010a, 2010f, 2014a, 2015c, Yurchenko 2011), MO (Yatsyna 2013a), VI (Golubkov 1992, Yatsyna 2011e, 2017, Bely 2011a, 2015b), no exact locality (Tomin 1939, Gorbach 1962): cor, lig, ter Bet, Pic, Pin.
560. **Trapeliopsis gelatinosa** (Flörke) Coppins & P. James – GO (Wyssotzky et al. 1925): ter.
561. **Trapeliopsis granulosa** (Hoffm.) Lumbsch – BR (Golubkov 1987, Yatsyna 2013a), GO (Golubkov & Vynaev 1981, Golubkov 2011), GR (Yatsyna 2010g, 2013a, Golubkov 2014a), MI (Gorbach 1973b, Golubkov & Vynaev 1981, Yatsyna 2009d), VI (Yatsyna 2010c, 2010f, 2011a, Bely 2011a): cor, lig, ter Pin, Pot.
562. **Trapeliopsis pseudogranulosa** Coppins & P. James – VI (Yatsyna & Motiejūnaite 2015): lig Pin.
563. **Trapeliopsis viridescens** (Schräd.) Coppins & P. James – GR (Yatsyna 2010g), MO (Savicz 1925): lig.
564. **Umbilicaria deusta** (L.) Baumg. – GR (Golubkov 2013a), MI (Yatsyna 2010h, 2013e), VI (Golubkov 1993): sil.
565. **Usnea barbata** (L.) Weber ex F.H. Wigg. – BR (Golubkov 1987, Yurchenko 2011), GO (Ljubitskaja 1914), GR (Gilibert 1781, Golubkov 1987), MI (Bachmann & Bachmann 1920), MO (Savicz & Savicz 1924, Savicz 1925), no exact locality (Makarevich 1963, Gorbach 1965d): cor Aln, Bet, Pic, Pin, Qur. – Note: The report by Golubkov (2014c) from Berezinsky State Reserve seems to be doubtful as the species is not listed among the literature cited in that work.
566. **Usnea ceratina** Ach. – BR (Golubkov & Kobzar 2005), GR (Golubkov 1987), MI (Bachmann & Bachmann 1920, Bely 2010b), VI (Golubkov 1993, Bely 2008b, 2010b): cor Aln, Bet.
567. **Usnea dasopoga** (Ach.) Nyl. – BR (Krawiec 1938, Golubkov 1987, Kobzar 2006, Bely 2011a, Yatsyna 2013a), GO (Ges 1960, Golubkov & Vynaev 1981, Golubkov 1987, 1992, 2007), GR (Golubkov 1987, 2014a, Kobzar 2006, Yatsyna 2010g, 2013a, 2016c), MI (Bachmann & Bachmann 1920, Oksner 1925, Gorbach 1955, Golubkov & Vynaev 1981, Golubkov 1987, Chernyshov 2003, Kobzar 2006, Yurchenko 2011, Bely 2011a, Yatsyna 2013a), MO (Kobzar 2006, Yatsyna 2009b, 2012a), VI (Gorbach & Osmolovskaya 1965, Gorbach 1973b, 1978, Insarov & Pchelkin 1982, Golubkov 1987, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2017, Bely & Golubkov 2009a, Bely 2011a), no exact locality (Gorbach 1965d, 1973b, Golubkov 1992, Yatsyna 2009e): cor Aln, Bet, Fre, Pic, Pin, Qup, Qur, Sal. – Note: Records of *U. plicata* F.H. Wigg. from Belarus are here referred to *U. dasopoga* (Ach.) Nyl. based on Golubkova (1996). Also, the report by Kreyer (1913) seems to be doubtful based on the variable morphology of mainly juvenile thalli found by Kreyer. The supporting specimens should be reexamined to confirm that this is the case.
568. **Usnea florida** (L.) Weber ex F.H. Wigg. – BR (Golubkov 1987), GO (Kreyer 1913), GR (Gilibert 1781, 1792), MI (Bachmann & Bachmann 1920, Golubkov 1992, Golubkov et al. 2013), MO (Downar 1861, Kreyer 1913, Savicz 1925, Kobzar 2006), VI (Kreyer 1913, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Bely 2008b), no exact locality (Gorbach 1962, 1973b): cor, lig Acp, Aln, Bet, Car, Pin, Pic, Qur, Sal.
569. **Usnea fragilesceus** Hav. – VI (Insarov & Pchelkin 1982): cor Pin.



570. **Usnea fulvorea**gens (Räsänen) Räsänen – BR (Kobzar 2006), GO (Golubkov & Vynaev 1981), MI (Gorbach 1965d, Yurchenko 2011), MO (Yurchenko 2011), VI (Gorbach & Osmolovskaya 1965, Gorbach & Mashenkova 1967, Golubkov & Kobzar 2007), no exact locality (Gorbach 1965d): cor Bet, Pin.
571. **Usnea glabrata** (Ach.) Vain. – MO (Yurchenko 2011), MI (Bachmann & Bachmann 1920): cor Pin.
572. **Usnea glabrescens** (Nyl. ex Vain.) Vain. ex Räsänen – BR (Golubkov 1987), GO (Golubkov 1992), GR (Golubkov 1987), MI (Gorbach 1965d, Golubkov 1992), MO (Savicz 1925), VI (Gorbach & Osmolovskaya 1965, Gorbach & Mashenkova 1967, Golubkov 1992, Golubkov & Kobzar 2007, Bely 2011a), no exact locality (Gorbach 1962): cor Aln, Bet, Pic, Pin, Pot, Qur, Sal.
573. **Usnea hirta** (L.) Weber ex F.H. Wigg. – BR (Tessendorff 1922, Krawiec 1938, Golubkov 1987, Bely 2011a, Yatsyna 2013a, Bely & Kudin 2016), GO (Savicz 1909, Wyssotzky et al. 1925, Ges 1960, Palamarchuk et al. 1975, Lapitskaya et al. 1979, Golubkov & Vynaev 1981, Kravchuk 2000, Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khramchankova 2008, Tsurykau et al. 2009, Golubkov 2011, Tsurikova 2013, Yatsyna 2014d), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Golubkov 1987, 2014a, Kobzar 2006, Andreeva et al. 2006, Yatsyna 2010g, 2013a, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Oksner 1924, Savicz & Savicz 1924, Gorbach 1955, Golubkov & Vynaev 1981, Shukanov et al. 1986, Kravchuk & Kakareka 1995, Chernyshov 2003, Kobzar 2006, Yatsyna 2009d, 2010a, 2010f, 2013a, 2013b, 2013c, 2015c, Bely 2011a, 2012c, Yatsyna & Yurchenko 2013), MO (Savicz & Savicz 1924, Savicz 1925, Kravchuk & Kakareka 1998, Yatsyna 2004, 2009b, 2013a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1978, Insarov & Pchelkin 1982, Golubkov 1991, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1962, 1973b, Yatsyna 2009e): cor, fol, lig Abi, Acp, Ahi, Aln, Bet, Car, Fre, Jun, Lar, Pic, Pin, Pis, Poc, Pon, Pot, Qur, Sal, Sor, Til.
574. **Usnea lapponica** Vain. – GO (Tsurykau 2017c), VI (Golubkov & Kobzar 2007): cor Bet, Pin. – The reports by Golubkov (1987, 1992) are based on an incorrect nomenclatural update of *U. fulvorea*gens.
575. **Usnea rubicunda** Stirt. – VI (Insarov & Pchelkin 1982): cor Pin.
576. **Usnea subfloridana** Stirt. – BR (Krawiec 1938, Golubkov 1987), GO (Golubkov & Vynaev 1981, Golubkov 1992, 2007, 2011, Tsurykau 2005, Kobzar 2006, Tsurykau et al. 2009, Tsurikova 2013), GR (Kobzar 2006, Yurchenko 2011, Yatsyna 2013a, Golubkov 2014a), MI (Golubkov & Vynaev 1981, Golubkov 1992, Chernyshov 2003, Kobzar 2006, Yatsyna 2009d, 2010a, Bely 2011a), MO (Kravchuk 2001, Kobzar 2006, Yatsyna 2009b, 2012a, 2013a), VI (Gorbach 1978, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010f, 2011a, 2017, Bely 2011a), no exact locality (Gorbach 1965d, Golubkov 1992): cor, lig Abi, Aln, Bet, Pic, Pin, Pot, Qup, Qur.
577. **Usnea wasmuthii** Räsänen – GO (Tsurykau & Tsurikova 2017): cor Pin.
578. **Varicellaria hemisphaerica** (Flörke) I. Schmitt & Lumbsch – VI (Gorbach 1970): cor Pin.
579. **Varicellaria lactea** (L.) I. Schmitt & Lumbsch – MI (Golubkov & Vynaev 1981), GR (Gilibert 1781): sil. – Note: The report of *V. lactea* by Gorbach (1973b) is based on an incorrect nomenclatural update of historical report of *Variolaria lactea* var. *arborea* by Kreyer (1913). However, the latter name corresponds to *Ochrolechia arborea* (Ljubitzkaja 1914).
580. **Variospora aurantia** (Pers.) Arup, Søchting & Frödén – GR (Yurchenko 2011), VI (Yurchenko 2011): cal.
581. **Verrucaria aethiobola** Wahlenb. – BR (Golubkov 1987), GR (Golubkov 1987), MI (Golubkov & Vynaev 1981, Yatsyna 2010a), VI (Bachmann & Bachmann 1920, Golubkov 1992, Yatsyna 2011e): cal, sil.
582. **Verrucaria floerkeana** Dalla Torre & Sarnth. – VI (Bachmann & Bachmann 1920): cal.

583. **Verrucaria fusca** Pers. – GO (Gorbach 1973b), GR (Bachmann & Bachmann 1920, Yatsyna 2016c), VI (Yatsyna 2011a): sil, ter.
584. **Verrucaria hydrela** Ach. – VI (Yatsyna 2013f, 2017): sil. – Note: The report by Yurchenko (2011) based on an incorrect nomenclatural update of *V. laevata* from the historical report of Bachmann and Bachmann (1920).
585. **Verrucaria madida** Orange – VI (Yatsyna 2013f): sil.
586. **Verrucaria muralis** Ach. – GO (Tsurykau & Khranchankova 2011a), GR (Yatsyna 2016c), MI (Golubkov & Vynaev 1981, Yatsyna 2005, 2013b, 2013b, Yurchenko 2011, Yatsyna & Yurchenko 2013), VI (Kreyer 1913, Gorbach 1973b, Yatsyna 2010c, 2011a), no exact locality (Gorbach 1973b, Golubkov 1992): cal, sil.
587. **Verrucaria nigrescens** Pers. – GO (Golubkov 2011), GR (Bachmann & Bachmann 1920, Golubkov 1987, 2014a, 2014b, Yurchenko 2011, Yatsyna 2016c), MI (Gorbach 1973b, Golubkov & Vynaev 1981, Yatsyna & Stefanovich 2005, Yatsyna 2010a, 2013a, 2013b, 2013c, 2014a, 2014b, 2015c, Yatsyna & Yurchenko 2013), MO (Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Golubkov 1992, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2010c, 2010d, 2011a): cal, sil.
588. **Verrucaria praetermissa** (Trevis.) Anzi – VI (Yatsyna 2013f): cor, sil Aln.
589. **Verrucaria rupestris** Schrad. – VI (Bachmann & Bachmann 1920): cal.
590. **Veizdaea aestivalis** (Ohlert) Tscherm.-Woess & Poelt – VI (Yatsyna 2011a, Gapienko et al. 2014): mus, ter.
591. **Veizdaea leprosa** (P. James) Vězda – VI (Gapienko et al. 2014): cor Acp.
592. **Violella fucata** (Stirt.) T. Sprib. – GO (Tsurykau et al. 2014a), GR (Tsurykau et al. 2014a), MO (Tsurykau et al. 2014a): cor Pin.
593. **Xanthomendoza coppinsii** S.Y. Kondr. & Kärnefelt – GR (Golubkov 2013a, Yatsyna & Kondratyuk 2013, Yatsyna 2016c), MI (Yatsyna 2013c, 2014a, Yatsyna & Kondratyuk 2013), VI (Golubkov 2013a): cor Acp, Fre, Qur, Til, Ulm.
594. **Xanthomendoza fulva** (Hoffm.) Søchting, Kärnefelt & S.Y. Kondr. – GO (Tsurykau & Kondratyuk 2011), GR (Yatsyna 2016c), MI (Yatsyna 2013b, 2013c, 2014a, Yatsyna & Kondratyuk 2013), VI (Yatsyna 2010e): cor Acp, Fre, Til, Ulm.
595. **Xanthomendoza huculica** (S.Y. Kondr.) Diederich – BR (Bely & Golubkov 2012, Yatsyna & Kondratyuk 2013), GO (Ges 1960, Kravchuk 2001, Tsurykau & Khranchankova 2007, 2008), GR (Golubkov & Khartanovich 2004a, 2004b, 2005, Yatsyna 2010e, 2016c, Bely & Golubkov 2012), MI (Golubkov & Yesis 1997a, Kravchuk 2001, Yatsyna & Stefanovich 2005, Yatsyna 2005, 2010e, 2013b, 2013c, 2014a, 2014b, 2015c, Bely & Golubkov 2012, Yatsyna & Yurchenko 2013, Yatsyna & Kondratyuk 2013), MO (Yatsyna 2010e, Yatsyna & Kondratyuk 2013), VI (Bely & Golubkov 2012, Yatsyna & Kondratyuk 2013): cal, cor Acn, Acp, Ahi, Bet, Fre, Poa, Pob, Pon, Pot, Qur, Rob, Til, Ulm.
596. **Xanthomendoza ulophyllodes** (Räsänen) Søchting, Kärnefelt & S.Y. Kondr. – MI (Yatsyna 2013b, 2014a, 2014b, 2015c): cor Fre, Poc, Til.
597. **Xanthoparmelia conspersa** (Ehrh. ex Ach.) Hale – BR (Golubkov 1987, Golubkov et al. 2007b), GO (Kobzar 2006, Golubkov et al. 2007a, Tsurykau & Khranchankova 2009b), GR (Bachmann & Bachmann 1920, Golubkov 1992, 1997, 2014a, Kobzar 2006, Yatsyna 2010g, 2016c), MI (Oksner 1924, Golubkov & Vynaev 1981, Golubkov & Rykovsky 1988, Golubkov 1997, Chernyshov 2003, Kobzar 2006, Yatsyna 2010a, 2012c, 2013a, 2013c, 2014a, Yurchenko 2011, Yatsyna & Yurchenko 2013), MO (Savicz 1925,



Yatsyna 2009b), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach 1965d, Golubkov 1992, 1997, Yatsyna 2010c, 2010d, 2011a), no exact locality (Gorbach 1965d): sil.

598. **Xanthoparmelia loxodes** (Nyl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch – GR (Golubkov et al. 2007b, Bely & Golubkov 2009a, Yatsyna 2016c), MI (Golubkov & Yesis 1997a, Bely & Golubkov 2009a, Yurchenko 2011), MO (Golubkov et al. 2007b, Yatsyna 2009b), VI (Golubkov et al. 2007b, Bely & Golubkov 2009a, Yatsyna 2010c): sil.
599. **Xanthoparmelia pulla** (Ach.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch – BR (Golubkov 1987, Golubkov et al. 2007b), GO (Golubkov & Vynaev 1981, Tsurykau & Khramchankova 2009b), GR (Bachmann & Bachmann 1920, Golubkov 1997, 2014a, Kobzar 2006, Yatsyna 2010g, 2016c), MI (Oksner 1925, Golubkov & Vynaev 1981, Yatsyna 2005, 2010a, 2014a, Kobzar 2006, Yurchenko 2011, Yatsyna & Yurchenko 2013), MO (Yatsyna 2009b), VI (Kreyer 1913, Gorbach 1965d, Golubkov 1992, 1997, Golubkov & Kobzar 2007, Golubkov et al. 2007b, Yatsyna 2010c): sil.
600. **Xanthoparmelia angustiphylla** (Gyeln.) Hale. – GR (Golubkov et al. 2007b), MI (Bely & Golubkov 2012), VI (Golubkov 1992), no exact locality (Yatsyna 2009e): sil.
601. **Xanthoparmelia verruculifera** (Nyl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch – BR (Golubkov 1987, 1992, Golubkov et al. 2007b), GO (Golubkov 2007), GR (Bachmann & Bachmann 1920, Golubkov 1997, Golubkov et al. 2007b, Yatsyna 2010g), MI (Gorbach 1965d, Golubkov & Vynaev 1981, Golubkov 1987, 1997, Yatsyna 2010a, Golubkov et al. 2013), MO (Golubkov et al. 2007b), VI (Golubkov 1987, 1991, 1992, Golubkov & Kobzar 2007, Golubkov et al. 2007b, Yatsyna 2010c): sil.
602. **Xanthoria parietina** (L.) Th. Fr. – BR (Suza 1928, Krawiec 1938, Golubkov 1987, Kobzar 2006, Yatsyna 2010e, 2014d, Bely 2011a, Padtsiarob et al. 2013, Bely & Kudin 2016), GO (Savicz 1909, Kreyer 1913, Wyssotzky et al. 1925, Ges 1960, Danilchuk et al. 1976, Golubkov & Vynaev 1981, Kravchuk 2000, 2001, Tsurykau 2004, 2005, 2010, Timoshenkova & Tsurykau 2005, Kobzar 2006, Golubkov et al. 2007a, Tsurykau et al. 2007, 2009, Tsurykau & Khramchankova 2008, 2010a, Bely 2010a, 2011a, Yatsyna 2010e, Yurchenko 2011, Golubkov 2011, Sobchanka et al. 2012, Padtsiarob et al. 2013, Tsurykau & Etayo 2017, Tsurykau & Tsurikova 2017), GR (Gilibert 1781, 1792, Bachmann & Bachmann 1920, Gorbach 1978, Golubkov 1987, 2014a, Kravchuk 2001, Golubkov & Khartanovich 2004a, 2004b, 2005, Kobzar 2006, Andreeva et al. 2006, Valko 2008, Yatsyna 2010e, 2010g, 2016c, Bely 2011a), MI (Bachmann & Bachmann 1920, Savicz 1925, Gorbach 1955, 1961, Golubkov & Vynaev 1981, Shukanov et al. 1986, Kravchuk & Kakareka 1995, Vyazovskaya & Golubkov 1997, Kobzar 1997, 2006, Yurchenko & Golubkov 2003, Chernyshov 2003, 2004c, Yatsyna 2005, 2010a, 2010e, 2012b, 2012c, 2013b, 2013c, 2014a, 2014b, Mavrishev & Dyukova 2008a, Bely 2010c, 2011a, Yurchenko 2011, Bely & Nikolaichuk 2012, Yatsyna & Yurchenko 2013, Padtsiarob et al. 2013, Padtsiarob & Bely 2015, Dobysh & Gaevskii 2016), MO (Downar 1861, Kreyer 1913, Savicz & Savicz 1924, Savicz 1925, Kravchuk & Kakareka 1998, Yurchenko & Golubkov 2003, Kobzar 2006, Yatsyna 2009b, Yatsyna 2010e, Bely 2011a, Tsurykau et al. 2016a), VI (Kreyer 1913, Bachmann & Bachmann 1920, Gorbach & Mashenkova 1967, Gorbach 1978, Golubkov 1991, Kobzar 2006, Golubkov & Kobzar 2007, Yatsyna 2008, 2010c, 2010d, 2010e, 2011a, 2017, Yurchenko 2011, Bely 2011a, Padtsiarob et al. 2013), no exact locality (Gorbach 1956, 1957, Bely 2013): cal, cor, fol, lig, met, sil Abi, Acd, Acn, Acp, Acr, Acs, Act, Ahi, Aln, Bet, Car, Coa, Euo, Fra, Fre, Jug, Lar, Mal, Pce, Pdi, Pdo, Pic, Pin, Pma, Poa, Pob, Poc, Pon, Pot, Ppa, Pse, Pyr, Qur, Rob, Sal, Sor, Til, Ulm.
603. **Xanthoria polessica** S.Y. Kondr. & A.P. Yatsyna – BR (Kondratyuk et al. 2013), GO (Kondratyuk et al. 2013), GR (Kondratyuk et al. 2013), MI (Kondratyuk et al. 2013, Yatsyna 2014a), MO (Kondratyuk et al. 2013): cor, lig Acp, Ahi, Fre, Pot, Qur, Sal, Til, Ulm.
604. **Xylographa parallela** (Ach.: Fr.) Fr. – GO (Golubkov 1992, 2011), GR (Bachmann & Bachmann 1920), MI (Bachmann & Bachmann 1920, Yatsyna 2015a), VI (Kreyer 1913, Gorbach 1973b, Kobzar 1985, Yatsyna 2010c): cor, lig Bet, Pic, Pin.
605. **Xylopsora friesii** (Ach.) Bendiksby & Timdal – GO (Tsurykau & Khramchankova 2015, Tsurykau 2017c), VI (Bely & Sidorovich 2013): cor, lig, roo Pin.

606. **Zwackhia viridis** (Ach.) Poetsch & Schied. – BR (Golubkov 1987), GO (Tsurykau & Khranchankova 2009b, Yurchenko 2011), GR (Golubkov 1987), MO (Tomin 1939, Yatsyna 2012a), VI (Yatsyna 2011e), no exact locality (Yatsyna 2009e): cor Car, Fre, Qur. – Note: The report by Golubkov (1992) may be erroneous because the species was not listed in subsequent papers (e.g. Golubkov 2011).

#### EXCLUDED AND DOUBTFUL SPECIES

- Acarospora nitrophila** H. Magn. – This is currently considered to be a rare saxicolous species only known with certainty from Norway and Sweden (Knudsen & Kocourková 2017). Evidently, the specimen identified by Yurchenko (2011) should be critically revised.
- Acarospora peliocypha** (Wahlenb.) Th. Fr. – This species was reported by Yatsyna and Merzhvinsky (2012) who referred to Bachmann and Bachmann (1920). However, the species was not cited in the latter publication.
- Arrhenia griseopallida** (Desm.) Watling – This species was reported as *Omphalina griseopallida* (Desm.) Quel. by Yurchenko (2011), but it is a Basidiomycete that is no longer considered to be lichenized.
- Arthonia apatetica** (A. Massal.) Th. Fr. – The report of this species is based on an incorrect nomenclatural update of *A. exilis* by Yurchenko (2011) and Yatsyna & Merzhvinsky (2012). The original report should be treated as *A. exilis* (Makarevich 1960).
- Aspicilia trachytica** (A. Massal.) Arnold – This species was reported by Yurchenko (2011) without additional information. According to Nimis (2016), it is a very poorly known silicicolous species from in the Mediterranean area, southern central Europe and Iran. Further study is needed before including it in the checklist for Belarus.
- Bacidia coprodes** (Körb.) Lettau – This species was reported by Kreyer (1913) as well as Bachmann and Bachmann (1920). These reports were doubted by Oksner (1968), however, and the description and ecology of the taxon in these early reports do not match those of (Ekman 2014). Further study is needed before including it in the checklist for Belarus.
- Bacidia trachona** (Ach.) Körb. – This name was erroneously cited by Tomin (1937, 1956) and later by Yurchenko (2011) as a synonym of *B. coprodes* (Ekman 2014). The species has not been documented from Belarus.
- Bellemerea cinereorufescens** (Ach.) Clauzade & Cl. Roux – This species was reported by Yatsyna and Merzhvinsky (2012) who referred to Golubkov without a specific citation of a source. However, the name was not located in any of Golubkov's published contributions. According to Nimis (2016), *B. cinereorufescens* grows on metal-rich siliceous rocks in upland areas. Further study is needed before including in the checklist for Belarus.
- Bilimbia microcarpa** (Th.Fr.) Th.Fr. – This species was reported as *Myxobilimbia* cf. *microcarpa* (Th. Fr.) Hafellner by Yurchenko (2011). However, the description does not clearly fit *B. microcarpa* and therefore it seems premature to accept this arctic-alpine species as occurring in the region. Further study is needed before including in the checklist for Belarus.
- Brianaria bauschiana** (Körb.) S. Ekman & M. Svensson – This species was reported as *Micarea bauschiana* (Körb.) V. Wirth & Vězda based on an incorrect nomenclatural update of *Lecidea lynceola* Th. Fr. by Yatsyna and Merzhvinsky (2012). Following to the description by Bachmann and Bachmann (1920), the original report should be treated as *Micarea lynceola*. For its part, *B. bauschiana* has an oceanic distribution that reaches the eastern edge of its European distribution in Poland (Czarnota 2007).
- Bryoria bicolor** (Ehrh.) Brodo & D. Hawksw. – This taxon was reported by Yurchenko (2011) and Yatsyna and Merzhvinsky (2012) based on an update of the synonym *Alectoria bicolor* (Ehrh.) Nyl. Both reports are based on Krawiec (1938). However, Krawiec reported the species from the vicinity of Białowieża village, which is now in Poland.
- Bryoria lanestris** (Ach.) Brodo & D. Hawksw. – This species was reported by Yatsyna and Merzhvinsky (2012) who referred publication by Golubkov without a specific citation of a source. However, the species was not located in any of Golubkov's published contributions. The identification of the single specimen stored in MSK is questionable and requires further study (Golubkov, pers. comm.).
- Bryoria subcana** (Nyl. ex Stizenb.) Brodo & D. Hawksw. – This species was reported as *Alectoria haynaldii* Gyeln. by Gorbach (1965a, 1965d, 1973b) who noted positive K and P (both yellow)



spot test reactions in her papers and handbooks. *Bryoria subcana* produces fumarprotocetraric acid and has a strong positive P red reaction in the cortex (Myllys et al. 2011). Given the inconsistency in the spot test reactions, all Belarusian reports of *A. haynaldii* and *B. subcana* are temporarily treated as *B. capillaris* pending further study.

**Byssoloma leucoblepharum** (Nyl.) Vain. – This crustose species was reported by Yurchenko (2011) based on a historical report of *Byssoloma tricholomum* (Mont.) Zahlbr. by Savicz and Savicz (1924). Following Makarevich (1977c), the material in LE collected by Savicz and Savicz belongs to *Byssoloma subdiscordans* (Nyl.) P. James.

**Caloplaca aractina** (Fr.) Häyrén – This species was reported by Kondratyuk et al. (2004) based on a historical report by Kreyer (1913). However, *Placodium gilvum* (Hoffm.) Vain. var. *aractina* (Fr.) Th. Fr., as reported by Kreyer, much more likely corresponds to the closely related and widespread *C. chlorina*, which is known from Belarus. *Caloplaca aractina* is a species of coastal rock outcrops (Fletcher & Laundon 2009), and this habitat is not present in Belarus, hence the occurrence of the species is unlikely.

**Caloplaca percrocata** (Arnold) J. Steiner – This species was reported by Kondratyuk et al. (2004) with no additional information. In neighboring countries, *C. percrocata* is confined to mountainous areas and was reported from alpine belt (Wilk & Flakus 2006, Vondrák et al. 2010). Therefore, this record is temporarily treated as doubtful pending further study.

**Caloplaca virescens** (Sm.) Coppins – This species was reported by Yatsyna (2013c, 2014a, 2015c). According to Šoun et al. (2011), the identity of *C. virescens* is unclear. Hence it is excluded from the present checklist pending further study.

**Caloplaca viridirufa** (Ach.) Zahlbr. – Gorbach (1973b) reported this species based on historical report of *Placodium gilvum* (Hoffm.) Vain. var. *aractina* (Fr.) Th. Fr. by Kreyer (1913). However, the report corresponds to *C. chlorina* (see note under *Caloplaca aractina*).

**Catillaria chalybeia** (Borrer) A. Massal. – This species was reported by Tomin (1939), who cited Kreyer (1913). However, the species was not mentioned by Kreyer, and thus it is not included in the present list.

**Catillaria lenticularis** (Ach.) Th. Fr. – This species was reported as *Biatorina lenticularis* (Ach.) Körb. var. *vulgaris* Körb. by Kreyer (1913). However, the report apparently does not refer to this species as the description (dark-olive tips of paraphyses, and large ascospores,  $10.4\text{--}13 \times 4\text{--}5 \mu\text{m}$ ) and ecology (aspen bark) do not correspond to the current understanding of the taxon (e.g. Hertel et al. 2007).

**Cetraria juniperina** (L.) Ach. – The report of this species is based on a doubtful record with no collection data (Rassadina 1971). No specimen from Belarus has been found in LE (Gagarina, pers. comm.) and the species is excluded from the present checklist.

**Cerothallia luteoalba** (Turner) Arup, Frödén & Søchting – Bely (2011a) reported this species as *Caloplaca luteoalba* (Turner) Th. Fr.; however, the vouchers were misidentified and belong to other species (Bely, pers. comm.).

**Cladonia brevis** (Sandst.) Sandst. – Yatsyna (2014c) reported this species without specific data as to its occurrence and ecology. According to Ahti and Stenroos (2013), TLC is needed to separate the species from the morphologically indistinguishable *C. polycarpoides* Nyl. and other similar taxa. Hence it is excluded from the present checklist pending further study.

**Cladonia ciliata** Stirt. – This species was reported by Yatsyna (2009c), but the vouchers instead belong to *C. tenuis* (Golubkov et al. 2013).

**Cladonia humilis** (With.) J.R. Laundon – This species was incorrectly reported by Golubkov and Yesis (1997a) and Bely (2011a); subsequent revision of the material by Tsurykau & Golubkov (2015) showed that it belonged to other species.

**Cladonia macroceras** (Delise) Hav. – This taxon was reported by Tsettermann (1948) as *Cladonia elongata* (Jacq.) Hoffm., which is almost certainly based on the nomenclatural update of *C. gracilis* var. *elongata* (Jacq.) Flörke (Bachmann & Bachmann 1920). The original report can be treated as *C. gracilis* ssp. *elongata* (Wulfen) Vain. because no morphological evidence was provided to accept *C. macroceras*, an arctic-alpine species, as occurring in the territory of Belarus. The report of *C. elongata* f. *ceratostelis* Flot. comb. inval. (Gorbach 1973b) seems to be doubtful and the entry should be treated as *C. gracilis* f. *ceratostelis* Flot. Vouchers assigned to *C. macroceras* by Bely (2010a, 2011b) were misidentified and belong to other species (Bely, pers. comm.). Furthermore, its occurrence in Belarus was already doubted by T. Ahti (see Yuchenko 2011).

- Cladonia polycephala** Hoffm. nom. illeg. – Yurchenko (2011) reported this species based on Jundzill (1830). However, that historical report cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. The species is excluded from the present list pending further study.
- Coniocarpon cinnabarinum** DC. – This species was reported as *Arthonia cinnabarina* (DC.) Wallr. by Makarevich (1977a). However, the report did not include any specific data for the record, and no voucher from Belarus has been found in LE (Gagarina, pers. comm.). As such, the species is not included in the present checklist.
- Cyphelium inquinans** (Sm.) Trevis. – This species was reported by Roms (1975) without any specific information as to the provenance or ecology of the material. No specimen from Belarus has been found in LE (Gagarina, pers. comm.). As such the species is not included in the present checklist.
- Cyphelium lucidum** (Th. Fr.) Th. Fr. – This species was reported by Roms (1975) without any specific information as to the provenance or ecology of the material. No specimen from Belarus has been found in LE (Gagarina, pers. comm.). As such, the species is not included in the present checklist.
- Diplozomma nivalis** (Begl. & Carestia) Hafellner – This species parasitizes *Rusavskia elegans* thalli growing on rocks (Bungartz et al. 2007), and therefore the report based on an historic corticolous specimen (Yurchenko 2011) is extremely unlikely to be this species. It is not included in the present checklist.
- Frutidella caesioatra** (Schaer.) Kalb – This species was reported by Andreev (2003a) without any specific information as to the provenance or ecology of the material. No specimen from Belarus has been found in LE (Gagarina, pers. comm.). As such, the species is not included in the present checklist.
- Fuscopannaria praetermissa** (Nyl.) P.M. Jørg. – Yurchenko (2011) reported this species based on the report of *Lecidea vesicularis* in Jundzill (1830). However, that historical report cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. The species is excluded from the present list pending further study.
- Halecania rhypodiza** (Nyl.) Coppins – Golubkov (1992) reported this species, but the vouchers instead belong to *Mycobilimbia pilularis* (Golubkov & Kobzar 2007).
- Hypocenomyce caradocensis** (Leight. ex Nyl.) P. James & Gotth. Schneid. – This species was mentioned by Yatsyna (2014c) without any specific information as to the provenance or ecology of the material. It was also not been included in the latest summary of new Belarusian records (Yatsyna & Motiejūnaite 2015). The species is excluded from the present list pending further study.
- Lathagrium fuscovirens** (With.) Otálora, P.M. Jørg. & Wedin – This species was reported as *Collema fuscovirens* (With.) J.R. Laundon by Yurchenko (2011) and Yatsyna & Merzhvinsky (2012) based on a nomenclatural update of *Parmelia furva* (Ach.) Ach. in Jundzill (1830). However, that historical report cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. The species is excluded from the present list pending further study.
- Lecanactis abietina** (Ach.) Körb. – Yurchenko (2011) reported this species based on a nomenclatural update of *Schismatomma abietinum* (Humb.) A. Massal. nom. illeg. published in Golubkov (1987, 1992). However, Golubkov cited Makarevich (1960) and Gorbach (1962, 1973) who reported *Schismatomma pericleum* rather than *S. abietinum*. As such *L. abietina* is not included on the present list.
- Lecania prasinoidea** Elenk. – This species was reported by Savicz (1925), Gorbach (1955), Gorbach & Mashenkova (1967), Golubkov & Vynaev (1981) and Golubkov (1987). However, the reports almost certainly do not refer to this species based on their ecology and descriptions (see also Motiejūnaite & Czyżewska 2008). Some of these reports were already considered questionable by Golubkov et al. (2013). Further study is needed before *L. prasinoidea* should be included in the checklist for Belarus.
- Lecanora cadubriae** (A. Massal.) Hedl. – This report was based on a nomenclatural update of *Lecidea obscurella* (Sommerf.) Arnold by Yurchenko (2011). However, the latter name could refer to either *L. cadubriae* and *L. phaeostigma* (see Nimis 2016). The original report (Bachmann & Bachmann 1920) probably refers to *L. phaeostigma*, which was recently confirmed from Belarus (Golubkov 1997, 2011). For its part, *L. cadubriae* is a montane species growing mainly at elevations above 1500 m (e.g. Ryan et al. 2004, Nimis 2016), and thus its occurrence in Belarus is unlikely. As the Bachmann herbarium was destroyed during World War II, there is no chance to reexamine the supporting voucher.

- Lecanora conferta** (Duby ex Fr.) Grognot – This report was based on an incorrect nomenclatural update of *Lecanora lithophila* Oksner by Yurchenko (2011). The latter species was also erroneously reported for Belarus (see below), however, it differs in having negative C reaction, as well as a darker, finely granular thallus (e.g. Makarevich 1971b).
- Lecanora intricata** (Ach.) Ach. – This report was based on an incorrect nomenclatural update of *Lecanora mutabilis* (Ach.) Nyl. by Yatsyna and Merzhvinsky (2012). The original report belongs to *Megaspora verrucosa* (Gorbach 1962). *Lecanora intricata* was also reported by Kobzar (2006) from Aspen bark. However, this is a saxicolous species rarely inhabiting worked wood (e.g. Ryan et al. 2004). As such, the latter report seems doubtful, especially given that no description was provided. The species is excluded from the present list pending further study.
- Lecanora lithophila** (Wallr.) Oksner – This species was reported by Tomin (1956) and Kobzar (1983). Tomin referred to Kreyer (1913) who reported *Lecanora umbrina* (Ehrh.) A. Massal. var. *lithophila* (Wallr.) Körb., which is now treated as *Lecanora umbrina*. The report of Kobzar (1983) should be treated as *Myriolecis dispersa*. Yatsyna and Merzhvinsky (2012) mentioned this species referring to Bachmann & Bachmann (1920: 330), but the species was not actually cited by the latter authors.
- Lecanora strobilina** (Spreng.) Kieff. – This report was based on an incorrect nomenclatural update of *Lecanora conizaea* (Ach.) Nyl. by Tsuryskau and Khranchankova (2010b). The original report belongs to *Lecanora expallens* (Kravchuk 2001).
- Lecanora subcarnea** (Lilj.) Ach. – This species was reported by Yurchenko (2011), accompanied by description from Makarevich (1971b) that does not match modern concept of this species (e.g., Edwards et al. 2009). As no TLC data were provided, the identification seems to be doubtful and the species is not included in the present list.
- Lecidea lapicida** (Ach.) Ach. – Yurchenko (2011) reported this species based on Jundzill (1830). However, that historical report cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. The species is excluded from the present list pending further study.
- Lecidea plana** (J. Lahm) Nyl. – This report by Yurchenko (2011) and Yatsyna & Merzhvinsky (2012) was based on a nomenclatural update of *Lecidea latypea* Ach. that was reported by Kreyer (1913). However, Kreyer (1913) mentioned a positive yellow spot test reaction with KOH, and therefore the original report almost certainly corresponds to *Lecidella carpathica*.
- Lecidella scabra** (Taylor) Hertel & Leuckert – This species was reported by Andreev (2003b). However, the report did not include any specific data for the record, and no voucher from Belarus has been found in LE (Gagarina, pers. comm.). As such, the species is not included in the present checklist.
- Melaspilea enteroleuca** (Ach.) Ertz & Diederich – This species was reported as *Lecidea enteroleuca* Ach. by Bachmann and Bachmann (1920) based on material from siliceous rock. According to Ertz and Diederich (2015) it is corticolous species, and the historical report likely instead refers to a *Lecidella* species.
- Melaspilea urceolata** (Fr.) Ertz & Diederich – This species was reported as *Dactylospora urceolata* (Th. Fr.) Arnold by Yurchenko (2011) based on a nomenclatural update of *Lecidea enteroleuca* Ach. As is discussed under *M. enteroleuca*, the original report by Bachmann and Bachmann (1920) is almost certainly erroneous.
- Mycobilimbia tetramera** (De Not.) Vitik., Ahti, Kuusinen, Lommi & T. Ulvinen ex Hafellner & Türk – This species was reported as *Biatora tetramera* (De Not.) Coppins by Golubkov (2011). However, *M. tetramera* is arctic-alpine species that is confined to high elevations (ca. 3500 m) in the region (Ekman 2004). The reported ecology and description are a much better fit for *Lecanora phaeostigma*.
- Nephroma laevigatum** Ach. – Savicz (1925) reported this species; however, the specimen belongs to *Nephroma bellum* (Golubkov, pers. comm.).
- Ochrolechia androgyna** (Hoffm.) Arnold – This species was reported by Tomin (1956) and Gorbach (1962) who referred to Krawiec (1938). However, Krawiec found this species in the vicinities of Pohulanka village, which is in now part of Lithuania. The material cited by Golubkov (1987, 1992), Bely & Golubkov (2009a) and Bely (2010a, 2011a) contain variolaric and lichesterinic acids, and instead belong to *O. microstictoides*.
- Ochrolechia parella** (L.) A. Massal. – This species was reported by several authors. Gorbach (1962) reported corticolous material growing on *Carpinus betulus* bark. According to Kukwa (2011), the



- species is saxicolous. The specimen reported by Ges (1960) is sorediate, contains variolaric and licheterinic acids, and thus belongs to *O. microstictoides*. The species was also mentioned by Tomin (1939) referring to Savicz without a specific citation of a source. However, the species was not located in any of Savicz's published contributions.
- Ochrolechia turneri** (Sw.) Hasselrot – This species was reported by Makarevich (1971c) and Gorbach (1973). The material instead refers to *O. microstictoides* and *O. turneri* should be excluded from the checklist pending further study.
- Pachnolepia pruinata** (Pers.) Frisch & G. Thor – This species was reported as *Arthonia impolita* (Ehrh.) Borr. by Tomin (1956) who referred to Bachmann and Bachmann (1920). However, the latter species was not mentioned by those authors.
- Parmelia submontana** Nádv. ex Hale – This species was erroneously reported for Belarus by Hawksworth et al. (2008). No specimen from Belarus has been found in H (Ahti, pers. comm.) and the species is excluded from the present checklist.
- Parmotrema chinense** (Osbeck) Hale & Ahti – Previous reports of this species were based on nomenclatural updates of *Parmelia perlata* (L.) Ach. (Tsuryskau & Khramchankova 2011a, Yurchenko 2011). However, the original reports belong to *Cetrelia* species and not to *P. chinense* (see Bely et al. 2011).
- Peltigera occidentalis** (Å.E. Dahl) Kristinsson – Yurchenko (2011) reported this species based on a specimen referred by Zavarzin to the *P. occidentalis-polydactyon* group. As the species was not mentioned by Golubkov and Zavarzin (2010) in the revision of Belarusian *Peltigera*, the authors seem not to have accepted earlier determination. Furthermore, the species typically grows in subalpine and alpine communities, and thus would be out of place in Belarus (Vitikainen 2007). The species is excluded from the present list pending further study.
- Peltigera venosa** (L.) Hoffm. – This species was reported by Yurchenko (2011) and Yatsyna and Merzhvinsky (2012). Yurchenko (2011) referred to the historical report by Jundzill (1830). However, that report cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. Thus it is unclear whether the species was really located in Belarus. Yatsyna & Merzhvinsky (2012) based their report on a nomenclatural update of *Lichen venosus* Gilib. *nom. illeg.* (Gilibert 1792). However, that name corresponds to *P. canina* and not *P. venosa*.
- Pertusaria glomerata** (Ach.) Schaer. – This is an arctic-alpine lichen, found in sites with a long-term snow cover (Nimis 2016). The report by Bachmann & Bachmann (1920) is doubtful (see Makarevich 1971a) and it is not included in the present checklist.
- Phaeographis dendritica** (Ach.) Müll. Arg. – This species was reported by Yurchenko (2011) and Yatsyna and Merzhvinsky (2012) based on a nomenclatural update of “*Platygramme dendritica*” in Jundzill (1830). However, that historical report cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. The species is excluded from the present list pending further study.
- Physconia leucoleiptes** (Tuck.) Essl. – This taxon was listed by Tsuryskau & Khramchankova (2010b) and Yurchenko (2011) based on historic reports of *Physcia leucoleiptes* (Tuck.) Lettau by Bachmann and Bachmann (1920) and Wyssotzky et al. (1925). However, *P. leucoleiptes* does not occur in Europe (Esslinger 2002) and is not included in the present checklist. Although the descriptions in Bachmann and Bachmann (1920) and Wyssotzky et al. (1925) are incomplete, the reports are provisionally listed under *P. deterosa* based on the fact they were described as having a black lower surface and white-pruinose upper cortex. The supporting specimens should be reexamined to confirm that this is the case.
- Physconia venusta** (Ach.) Poelt – This species was reported by Golubkov (1987, 1992, 2011, 2014a), Golubkov & Kobzar (2007) and Tsuryskau & Khramchankova (2007), but the specimens belong to *P. distorta*. Furthermore, the distribution of *P. venusta* is centered in the Mediterranean mountains (Nimis 2016).
- Protomicarea limosa** (Ach.) Hafellner – This species was reported by Yurchenko (2011) and Yatsyna and Merzhvinsky (2012) based on a nomenclatural update of *Lecidea limosa* Ach. in Jundzill (1830). However, that historical report cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. The species is excluded from the present list pending further study.

- Pseudosagedia borrieri** (Trevis.) Hafellner & Kalb – This species was reported by Yurchenko (2011) based on a nomenclatural update of *Verrucaria olivacea* Pers. which was reported by Jundzill (1830). However, that historical report cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. The species is excluded from the present list pending further study.
- Pyrenula dermatodes** (Borrer) Schaer. – This species was erroneously reported by Oksner (1956) and Makarevich (1977d). The reports should be treated as *P. nitidella* (Flörke ex Schaer.) Müll. Arg. following Golubkov (1987).
- Ramalina obtusata** (Arnold) Bitter – Golubkov (1992) reported this species, but the specimens belong to *R. baltica*. The report of Yatsyna (2016c) also needs critical revision (see Yatsyna 2016b). *Ramalina obtusata* is excluded from the present checklist pending further study.
- Ramalina pulvinata** (Anzi) Jatta – This species was reported by Yatsyna and Merzhvinsky (2012) based on a reference to historical report by Kreyer (1913). *Ramalina pulvinata* is a synonym of *R. breviuscula* (Nyl.) Nyl., which is mainly a Mediterranean saxicolous species (Nimis 2016). The description provided by Kreyer (1913) fits *R. pollinaria* and the report almost certainly corresponds to that species.
- Rhizocarpon eupetraeoides** (Nyl.) Blomb. & Forssell – This species was reported by Novruzov (1990) without specific information and the species was not been confirmed as occurring in Belarus in a recent revision of the genus (Matwiejuk & Golubkov 2012). It is excluded from the list here.
- Rhizocarpon eupetraeum** (Nyl.) Arnold – This species was reported by Oksner (1968) without any specific information. The species was not been confirmed for Belarus in a recent revision of the genus (Matwiejuk & Golubkov 2012). It is excluded from the list here.
- Rhizocarpon umbilicatum** (Ramond) Flagey – Oksner (1968) reported this species, but the identification for Belarus has been questioned, and therefore it seems premature to accept this species as occurring in the region.
- Ricasolia amplissima** (Scop.) De Not. – This species was reported as *Lobaria amplissima* (Scop.) Forssell by Yurchenko (2011) based on an encyclopedia entry (Shamjakin 1984). The entry does not include a Latin name and instead refers to *L. scrobiculata*.
- Rinodina archaea** (Ach.) Arnold – This species was erroneously reported by Yatsyna & Merzhvinsky (2012), who cited Kreyer (1913: 372). However, the species does not appear to have been cited in the latter publication.
- Rinodina turfacea** (Wahlenb.) Th. Fr. – The use of this name in Belarus derives from *R. turfacea* var. *nuda* Th. Fr. f. *minor* Kreyer that was described by Kreyer (1913). However, this taxon apparently does not correspond to *R. turfacea* (e.g. Kotlov 2008, Sheard 2004) as it has dark thallus, small ascospores ( $13\text{--}21 \times 7.6\text{--}11.7 \mu\text{m}$ ) and grows on soil.
- Rinodina vezdae** H. Mayrhofer – This species was reported by Kotlov (2008) without specific information on its provenance and ecology. No specimen from Belarus has been found in LE (Gagarina, pers. comm.) and the species is excluded from the present list pending further study.
- Schismatomma graphidioides** (Leight.) Zahlbr. – This species was reported as *Lithographa graphidioides* (Cromb.) Imshaug ex Coppins & Fryday based on an incorrect nomenclatural update of *S. pericleum* by Golubkov (2011).
- Sclerophora amabilis** (Tibell) Tibell – The report by Yatsyna (2015b) from a manor park in the Minsk region is likely erroneous (see Yatsyna 2016a).
- Sphaerophorus fragilis** (L.) Pers. – This taxon was reported Yurchenko (2011), who cited Meier (1901). However, the species has arctic-alpine to boreal-montane distribution (Nimis 2016) and use of *Lichen fragilis* L. by Meier almost certainly refers to a different species.
- Staurothele clopima** (Wahlenb.) Th. Fr. – It is likely that the report of this species by Yatsyna (2015d) from the Grodno fortress was erroneous as that species was not cited in the latter publication (Yatsyna 2016c). According to Nimis (2016), the species is mainly restricted to mountainous areas.
- Trapeliopsis glaucolepidea** (Nyl.) Gotth. Schneid. – This species was reported by Yatsyna (2014c) without specific information as to the provenance and ecology. It was also not included in the latest summary of new Belarusian reports (Yatsyna & Motiejūnaite 2015). As such, the report is considered questionable and excluded from the present list pending further study.

- Usnea cavernosa** Tuck. – This species was reported by Golubkov and Kobzar (2005), who cited Krawiec (1938). However, Krawiec reported the species from the vicinity of Białowieża village which is now in Poland.
- Vahliella leucophaea** (Vahl) P.M. Jørg. – This species was reported as *Fuscopannaria leucophaea* (Vahl) P.M. Jørg. by Yurchenko (2011) based on historical reports by Gilibert (1781) and Jundzill (1830). However, that name was not mentioned by Gilibert. Further, Jundzill cited no exact locality, and covered a large geographic area including modern Belarus, Lithuania, Poland and Ukraine. The species is excluded from the present list pending further study.
- Varicellaria velata** (Turner) Schmitt & Lumbsch – This species was reported by Bachmann and Bachmann (1920) as *Pertusaria velata* (Turner) Nyl. However, the occurrence of this oceanic species in Belarus is doubtful (see also, Makarevich 1971a) and the report probably refers to another species.
- Verrucaria sylvana** Kreyer – This was described as a new species by Kreyer (1913). However, the description of *V. sylvana* is very short and it is not possible to establish its identity with certainty. Based on the description, the name could apply to several species. Furthermore, the reported variation in ascospore width is larger than is typical for a species of *Verrucaria* (Pykälä, pers. comm.). Therefore, the identity of *V. sylvana* requires further study and the name is considered as *nomen dubium* until type material is studied.
- Verrucaria viridula** (Schrader) Ach. – This species was reported as *V. papillosa* Ach. by Kopachevskaja (1977) based on an incorrect nomenclatural update of a historical report of *V. papillosa* Flörke (Bachmann & Bachmann 1920). However, the latter name corresponds to *V. floerkeana*.
- Xanthoparmelia pokornyi** (Körb.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch – This species was erroneously reported for Belarus by Hawksworth et al. (2008). No specimen from Belarus has been found in H (Ahti, pers. comm.) and the species is excluded from the present checklist.
- Xanthoparmelia stenophylla** (Ach.) Ahti & D. Hawksw. – This species was reported by Golubkov (1992), Golubkov et al. (2007b) and Bely and Golubkov (2012), but the specimens were reidentified as *X. angustiphylla* by TLC during a recent revision (Tsurukau et al. 2018). The report by Yatsyna (2009e) was not accompanied by chemical data and therefore should be reexamined before being included.

#### NOMENCLATURAL INDEX TO SYNONYMS AND HISTORICAL NAMES

- Acarospora discreta Ach. = Acarospora veronensis  
Acarospora fuscata (Schrader) Th. Fr. var. rufescens (Turner) Th. Fr. = Acarospora fuscata  
Acarospora glebosa (Flot.) Körb. = Acarospora oligospora  
Acarospora heppii Nägeli ex Körb. = Caeruleum heppii  
Acrocordia alba (Schrader) B. de Lesd. = Acrocordia gemmata  
Acrocordia sphaeroides (Wallr.) Arnold = Acrocordia gemmata  
Allarthonia patellulata (Nyl.) Zahlbr. = Arthonia patellulata  
Alectoria cana (Ach.) Leight. = Bryoria capillaris  
Alectoria chalybeiformis (L.) Röhl. = Bryoria fuscescens  
Alectoria crispa Motyka = Bryoria fuscescens  
Alectoria haynaldii Gyeln. sensu Gorbach = Bryoria capillaris  
Alectoria implexa auct. = Bryoria implexa  
Alectoria jubata (L.) Ach. – name can be applied to various pendent species of Bryoria (see Brodo & Hawksworth 1977, Esslinger 2016)  
Alectoria mirabilis Motyka = Bryoria implexa  
Alectoria motycii Bystrek nom. inval. = Bryoria implexa  
Alectoria motykana Bystrek = Bryoria implexa  
Alectoria nidulifera Norrl. = Bryoria furcellata  
Alectoria setacea (Ach.) Motyka = Bryoria capillaris  
Alectoria setacea (Ach.) Motyka var. tominii Bystrek = Bryoria capillaris  
Alectoria thrausta Ach. = Ramalina thrausta  
Anaptychia ciliaris (L.) Körb. var. vulgaris Körb. = Anaptychia ciliaris  
Anaptychia ciliaris (L.) Körb. f. verrucosa (Ach.) Boistel = Anaptychia ciliaris  
Anaptychia speciosa (Wulfen) A. Massal. = Heterodermia speciosa



*Arthonia byssacea* (Weigel) Almq. = *Inoderma byssaceum*  
*Arthonia cinnabarina* (DC.) Wallr. = *Coniocarpon cinnabarinum*  
*Arthonia leucopellaea* (Ach.) Almq. = *Felipes leucopellaeus*  
*Arthonia lurida* Ach. nom. rej. = *Arthonia spadicea*  
*Arthonia populina* A. Massal. = *Arthonia punctiformis*  
*Arthonia radiata* (Pers.) Th. Fr. f. *swartziana* Ach. = *Arthonia radiata*  
*Arthonia radiata* (Pers.) Th. Fr. f. *astroidea* Ach. = *Arthonia radiata*  
*Arthonia radiata* (Pers.) Ach. var. *astroidea* Ach. = *Arthonia radiata*  
*Arthonia ruana* A. Massal. = *Arthothelium ruanum*  
*Arthonia ruanum* nom. illeg. = *Arthothelium ruanum*  
*Arthonia tumidula* Ach. = *Arthonia cinnabarina*  
*Arthopyrenia alba* (Schrad.) Zahlbr. = *Acrocordia gemmata*  
+*Arthopyrenia analepta* (Ach.) A. Massal. var. *punctiformis* (Schränk.) Kreyer = *Naetrocymbe punctiformis*  
#*Arthopyrenia atomaria* (Ach.) Müll. Arg. = *Naetrocymbe punctiformis*  
#*Arthopyrenia punctiformis* (Ach.) Arnold = *Naetrocymbe punctiformis*  
*Arthopyrenia punctiformis* (Ach.) Arnold var. *atomaria* Ach. = *Leptorhaphis atomaria*  
*Arthopyrenia spaeroides* (Wallr.) Zahlbr. = *Acrocordia gemmata*  
*Arthrospora populorum* A. Massal. nom. illeg. = *Arthrosporum populorum*  
*Arthrosporum accline* (Flot.) Körb. = *Arthrosporum populorum*  
*Aspicilia calcarea* (L.) Mudd. = *Circinaria calcarea*  
*Aspicilia contorta* (Hoffm.) Kremp. = *Circinaria contorta*  
*Aspicilia gibbosa* (Ach.) Körb. = *Circinaria gibbosa*  
*Aspicilia moenium* (Vain.) G. Thor & Timdal. = *Acarospora moenium*  
*Aspicilia mutabilis* (Ach.) Körb. = *Megaspora verrucosa*  
*Aspicilia sphaerothallina* (J. Steiner) Szatala = *Circinaria sphaerothallina*

*Bacidia abbrevians* (Nyl.) Th. Fr. = *Bacidia igniarii*  
*Bacidia acerina* (Pers.) Arnold = *Bacidia polychroa*  
*Bacidia albescens* (Arnold) Zwakch. = *Bacidina phacodes*  
*Bacidia arnoldiana* Körb. = *Bacidina arnoldiana*  
*Bacidia assulata* (Körb.) Vězda = *Bacidina assulata*  
*Bacidia bacillifera* (Nyl.) Elenk. = *Bacidia circumspecta*  
*Bacidia bacillifera* (Nyl.) Elenk. var. *abbrevians* Nyl. = *Bacidia igniarii*  
*Bacidia beckhausii* Körb. = *Biatora beckhausii*  
*Bacidia cinerea* (Schaer.) Körb. = *Micarea cinerea*  
*Bacidia chlorococca* (Graewe ex Stenh.) Lettau = *Scoliciosporum chlorococcum*  
*Bacidia corticola* (Anzi) Dalla Torre & Sarnth. = *Scoliciosporum umbrinum*  
*Bacidia delicata* (Leight.) Coppins = *Bacidina delicata*  
*Bacidia effusa* (Sm.) Arnold = *Bacidina assulata*  
*Bacidia endoleuca* (Nyl.) Kickx. = *Bacidia laurocerasi*  
*Bacidia fuscorubella* (Hoffm.) Bausch = *Bacidia polychroa*  
*Bacidia fuscorubella* (Hoffm.) Arnold var. *phaea* (Stizenb.) Th. Fr. = *Bacidia polychroa*  
*Bacidia globulosa* (Flörke) Hafellner & V. Wirth = *Biatora globulosa*  
*Bacidia hegetschweileri* (Hepp) Vain. = *Bacidia subincompta*  
*Bacidia hypnophila* (Ach.) Zahlbr. = *Bilimbia sabuletorum*  
*Bacidia intermedia* Arnold = *Bacidina assulata*  
*Bacidia inundata* (Fr.) Körb. = *Bacidina inundata*  
*Bacidia luteola* (Schrad.) Mudd. = *Bacidia rubella*  
*Bacidia minuscula* Anzi = *Biatora beckhausii*  
*Bacidia muscorum* (Sw.) Arnold f. *viridescens* (A. Massal.) Hepp = *Bacidia bagliettoana*  
*Bacidia naegelii* (Hepp) Zahlbr. = *Lecania naegelii*  
*Bacidia nitschkeana* (J. Lahm) Zahlbr. = *Micarea nitschkeana*  
*Bacidia phacodes* Körb. = *Bacidina phacodes*  
*Bacidia populorum* (A. Massal.) Trevis. = *Arthrosporum populorum*  
*Bacidia sabuletorum* Flörke = *Bilimbia sabuletorum*

*Bacidia sphaeroides* (Dicks.) Zahlbr. = *Mycobilimbia pilularis*  
*Bacidia umbrina* (Ach.) Branth & Rostrup. = *Scoliciosporum umbrinum*  
*Baeomyces roseus* Pers. = *Dibaeis baeomyces*  
*Baeomyces byssoides* (L.) Schaer. f. *sessilis* Nyl. = *Baeomyces rufus*  
*Biatora atrofusca* Flot. ex Hepp = *Bryobilimbia hypnorum*  
*Biatora atroviridis* (Arnold) Hellb. = *Biatora ocelliformis*  
*Biatora carneoalbida* (Müll. Arg.) Coppins = *Mycobilimbia carneoalbida*  
*Biatora coarctata* (Sm.) Arnold f. *elachista* (Ach.) Th. Fr. = *Trapelia involuta*  
*Biatora coarctata* (Sm.) Arnold var. *elachista* (Ach.) Th. Fr. = *Trapelia involuta*  
*Biatora flexuosa* Fr. = *Trapeliopsis flexuosa*  
*Biatora granulosa* (Ehrh.) Flot. = *Trapeliopsis granulosa*  
*Biatora granulosa* (Flörke) Flot. var. *escharoides* (Hoffm.) Arnold = *Trapeliopsis gelatinosa*  
*Biatora humosa* (Ehrh. ex Hoffm.) Arnold = *Placynthiella uliginosa*  
*Biatora monticola* (Schaer.) Hepp = *Clauzadea monticola*  
*Biatora obscurella* (Sommrft.) Arnold = *Lecanora phaeostigma*  
*Biatora sylvana* Körb. = *Biatora globulosa*  
*Biatora symmicta* (Ach.) A. Massal. = *Palicella filamentosa*  
*Biatora turgidula* (Fr.) Nyl. = *Lecidea turgidula*  
*Biatora uliginosa* (Schräd.) Fr. = *Placynthiella uliginosa*  
*Biatora uliginosa* (Schräd.) Fr. f. *fuliginea* (Ach.) Fr. = *Placynthiella uliginosa*  
*Biatora viridescens* Fr. = *Trapeliopsis viridescens*  
*Biatorella moriformis* (Ach.) Th. Fr. = *Strangospora moriformis*  
*Biatorella pruinosa* (Sm.) Mudd. = *Sarcogyne regularis*  
+*Biatorella resinae* Mudd. = *Sarea resinae*  
*Biatorina atropurpurea* (Schaer.) A. Massal. = *Catinaria atropurpurea*  
*Biatorina bouteillei* (Desm.) Arnold = *Fellhanera bouteillei*  
*Biatorina prasina* (Fr.) Stein var. *laeta* Th. Fr. = misidentification  
*Bilimbia cinerea* (Schaer.) Körb. = *Micarea cinerea*  
*Bilimbia coprodes* Körb. = *Bacidia coprodes*  
*Bilimbia hypnophila* (Ach.) Th. Fr. = *Bilimbia sabuletorum*  
*Bilimbia hypnophila* (Ach.) Th. Fr. f. *ludens* Stizenb. = *Bilimbia sabuletorum*  
*Bilimbia naegelii* (Hepp) Anzi = *Lecania naegelii*  
*Bilimbia nitschkeana* J. Lahm = *Micarea nitschkeana*  
*Bilimbia sphaeroides* (Dicks.) Th. Fr. = *Mycobilimbia carneoalbida*  
*Bilimbia trachona* (Ach.) Trevis. = *Bacidia trachona*  
*Blastenia obscurella* J. Lahm = *Caloplaca obscurella*  
*Bryopogon chalybeiforme* (L.) Elenk. = *Bryoria fuscescens*  
*Bryopogon implexum* (Hoffm.) Elenk. = *Bryoria implexa*  
*Bryopogon implexum* (Hoffm.) Elenk. f. *capillaris* Ach. = *Bryoria capillaris*  
*Bryopogon jubatum* (L.) – name can be applied to various pendent species of *Bryoria* (see Brodo & Hawksworth 1977, Esslinger 2016)  
*Bryoria chalybeiformis* (L.) Brodo & D. Hawksw. = *Bryoria fuscescens*  
*Bryoria crispa* (Motyka) Bystrek = *Bryoria fuscescens*  
*Bryoria jubata* (L.) Bystrek – name can be applied to various pendent species of *Bryoria*  
*Bryoria mirabilis* (Motyka) Bystrek = *Bryoria implexa*  
*Bryoria motykana* (Bystrek) Bystrek = *Bryoria implexa*  
*Bryoria osteola* (Gyeln.) Brodo & D. Hawksw. = *Bryoria implexa*  
*Bryoria pseudofuscescens* (Gyeln.) Brodo & D. Hawksw. = *Bryoria implexa*  
*Bryoria setacea* (Ach.) Brodo & D. Hawksw. = *Bryoria capillaris*  
*Buellia alboatra* (Hoffm.) Th. Fr. = *Diplotomma alboatrum*  
*Buellia epipolia* (Ach.) Mong. = *Diplotomma alboatrum*  
*Buellia insignis* (Nägeli ex Hepp) Th. Fr. = *Tetramelas insignis*  
*Buellia lauri-cassiae* (Fée) Müll. Arg. = Belarusian reports probably refer to *Buellia geophila*  
*Buellia margaritacea* (Sommerf.) Lynge = *Diplotomma alboatrum*  
*Buellia myriocarpa* (DC.) De Not. = *Amandinea punctata*  
*Buellia parasema* De Not. = *Buellia disciformis*

*Buellia parasema* (Ach.) Th. Fr. var. *disciformis* Th. Fr. = *Buellia disciformis*  
*Buellia parasema* (Ach.) Th. Fr. var. *microcarpa* Schaer. = *Buellia disciformis*  
*Buellia parasema* (Ach.) Th. Fr. var. *triphragmia* (Nyl.) Th. Fr. = *Buellia geophila*  
*Buellia punctata* (Hoffm.) A. Massal. = *Amandinea punctata*  
*Buellia punctiformis* (Hoffm.) A. Massal. = *Amandinea punctata*  
*Buellia punctiformis* (Hoffm.) A. Massal. f. *ochroleuca* Kreyer = *Amandinea punctata*  
*Buellia stigmata* Körb. = *Amandinea punctata*  
*Byssoloma rotuliforme* (Müll. Arg.) R. Sant. = *Byssoloma subdiscordans*  
*Byssoloma tricholomum* (Mont.) Zahlbr. = *Byssoloma subdiscordans*

*#Calicium floerkei* Zahlbr. = *Chaenothecopsis pusilla*  
*Calicium hyperellum* (Ach.) Ach. = *Calicium viride*  
*#Calicium italicum* (Sacc.) Gola = *Chaenothecopsis pusilla*  
*Calicium minutum* Körb. = *Calicium abietinum*  
*#Calicium pusillum* Flörke = *Chaenothecopsis pusilla*  
*+Calicium parietinum* Ach. = *Mycocalicium subtile*  
*Calicium sphaerocephalum* (L.) Ach. = *Calicium salicinum*  
*Calicium subquercinum* Asahina = *Calicium lenticulare*  
*+Calicium subtile* Pers. = *Mycocalicium subtile*  
*Calogaya decipiens* (Arnold) Arup, Frödén & Söchting = *Calogaya pusilla*  
*Caloplaca aurantia* (Pers.) Hellb. = *Variospora aurantia*  
*Caloplaca cerina* (Ach.) Th. Fr. var. *ehrhartii* (Schaer.) Th. Fr. = *Caloplaca cerina*  
*Caloplaca cerinella* (Nyl.) Flagey = *Athallia cerinella*  
*Caloplaca cerinelloides* (Erichsen) Poelt = *Athallia cerinelloides*  
*Caloplaca citrina* (Hoffm.) Th. Fr. = *Flavoplaca citrina*  
*Caloplaca decipiens* (Arnold) Blomb. & Forssell = *Calogaya pusilla*  
*Caloplaca elegans* (Link) Th. Fr. = *Rusavskia elegans*  
*Caloplaca ferruginea* (Huds.) Th. Fr. = *Blastenia ferruginea*  
*Caloplaca flavocitrina* (Nyl.) H. Olivier = *Flavoplaca flavocitrina*  
*Caloplaca flavorubescens* (Huds.) J.R. Laundon = *Gyalolechia flavorubescens*  
*Caloplaca flavovirescens* (Wulfen) Dalla Torre & Sarnth. = *Gyalolechia flavovirescens*  
*Caloplaca herbidella* (Arnold) H. Magn. = *Blastenia herbidella*  
*Caloplaca holocarpa* (Hoffm.) A.E. Wade sensu auct. Belarus = *Athallia pyracea* s. lat.  
*Caloplaca lobulata* (Flörke) Hellb. = *Calogaya lobulata*  
*Caloplaca luteoalba* (Turner) Th. Fr. = *Cerothallia luteoalba*, but most probably misidentification  
*Caloplaca phlogina* (Ach.) Flagey = *Polycauliona phlogina*  
*Caloplaca pyracea* (Ach.) Zwackh = *Athallia pyracea*  
*Candelariella cerinella* (Flörke) Elenk. = *Candelariella aurella*  
*Candelariella vitellina* (Ehrh.) Elenk. var. *genuina* Th. Fr. = *Candelariella vitellina*  
*Candelariella vitellina* (Ehrh.) Elenk. var. *xanthostigma* (Pers.) Th. Fr. = *Candelariella xanthostigma*  
*Catapyrenium squamulosum* (Ach.) Breuss = *Placidium squamulosum*  
*Catillaria atropurpurea* (Schaer.) Th. Fr. = *Catinaria atropurpurea*  
*Catillaria bouteillei* (Desm.) Zahlbr. = *Fellhanera bouteillei*  
*Catillaria denigrata* (Fr.) Held. = *Micarea denigrata*  
*Catillaria globulosa* (Flörke) Th. Fr. = *Biatora globulosa*  
*Catillaria graniformis* (K.G. Hagen) Vain. = *Cliostomum corrugatum*  
*Catillaria griffithii* (Sm.) Malme = *Cliostomum griffithii*  
*Catillaria synothea* (Ach.) Th. Fr. = *Micarea denigrata*  
*Catillaria prasina* (Fr.) Th. Fr. = *Micarea prasina*  
*Catocarpon badioatrum* (Flörke) Körb. var. *vulgaris* Körb. = *Rhizocarpon badioatrum*  
*Cetraria aleurites* (Ach.) Th. Fr. = *Imshaugia aleurites*  
*Cetraria caperata* Vain. = *Cetraria pinastri*  
*Cetraria chlorophylla* (Willd.) Vain. = *Nephromopsis chlorophylla*  
*Cetraria crispa* (Ach.) Nyl. = *Cetraria ericetorum*  
*Cetraria ericetorum* Opiz. f. *vagans* (Mereschk.) Rass. = *Cetraria ericetorum*  
*Cetraria glauca* (L.) Ach. = *Platismatia glauca*



*Cetraria glauca* (L.) Ach. f. *coralloidea* Wallr. = *Platismatia glauca*  
*Cetraria glauca* (L.) Ach. f. *ulophylla* Wallr. = *Platismatia glauca*  
*Cetraria islandica* (L.) Ach. f. *crispa* Ach. = *Cetraria ericetorum*  
*Cetraria islandica* (L.) Ach. f. *isidioidea* Rass. = *Cetraria islandica*  
*Cetraria islandica* (L.) Ach. f. *maculata* (Vain.) Savicz = *Cetraria islandica*  
*Cetraria islandica* (L.) Ach. f. *platyna* Ach. = *Cetraria islandica*  
*Cetraria islandica* (L.) Ach. f. *rigida* (Retz.) Savicz = *Cetraria islandica*  
*Cetraria islandica* (L.) Ach. f. *sorediata* Arnold = *Cetraria islandica*  
*Cetraria islandica* (L.) Ach. f. *subtubulosa* Fr. = *Cetraria ericetorum*  
*Cetraria islandica* (L.) Ach. f. *vagans* Savicz = *Cetraria islandica*  
*Cetraria scutata* auct. Belarus = *Nephromopsis chlorophylla*  
*Cetraria sepincola* Ach. f. *rosulata* Th. Fr. = *Cetraria sepincola*  
*Cetraria tenuifolia* Vain. = *Cetraria ericetorum*  
*Cetraria tenuifolia* Vain f. *soralifera* Anders = *Cetraria ericetorum*  
*Chaenotheca aeruginosa* (Turner) A. L. Sm. = *Chaenotheca stemonea*  
*Chaenotheca carthusiae* (Harm.) Lettau = *Chaenotheca chlorella*  
*Chaenotheca melanophaea* (Ach.) Zwackh = *Chaenotheca ferruginea*  
*Chaenotheca trichialis* Hellb. f. *candelaris* Dalla Torre & Sarnth. = *Chrysothrix candelaris*  
*#Chaenothecopsis lignicola* (Nádv.) A.F.W. Schmidt = *Chaenothecopsis pusiola*  
*Cladina alpestris* (L.) Rabenh. = *Cladonia stellaris*  
*Cladina arbuscula* (Wallr.) Hale & W.L. Culb. = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladina mitis* (Sandst.) Hale & W.L. Culb. = *Cladonia arbuscula* ssp. *mitis*  
*Cladina portentosa* (Dufour) Follmann = *Cladonia portentosa*  
*Cladina rangiferina* (L.) Harm. = *Cladonia rangiferina*  
*Cladina stellaris* (Opiz) Brodo = *Cladonia stellaris*  
*Cladina tenuis* (Flörke) Hale & W.L. Culb. = *Cladonia tenuis*  
*Cladonia alpestris* (L.) Rabenh. = *Cladonia stellaris*  
*Cladonia amaurocraea* (Flörke) Schaer. f. *amaurocraea* = *Cladonia amaurocraea*  
*Cladonia amaurocraea* (Flörke) Schaer. f. *oxyceras* (Ach.) Vain. = *Cladonia amaurocraea*  
*Cladonia anomaea* (Ach.) Ahti & P. James = *Cladonia ramulosa*  
*Cladonia arbuscula* (Wallr.) Flot. f. *sphagnoides* (Flörke) H. Olivier = *Cladonia arbuscula*  
*Cladonia bacillaris* (Ach.) Nyl. = *Cladonia macilenta* var. *bacillaris*  
*Cladonia bacillaris* (Ach.) Nyl. var. *bacillaris* = *Cladonia macilenta* var. *bacillaris*  
*Cladonia bacillaris* (Ach.) Nyl. var. *clavata* (Ach.) Vain. = *Cladonia macilenta* var. *bacillaris*  
*Cladonia botrytes* (K.G. Hagen) Willd. f. *botrytes* = *Cladonia botrytes*  
*Cladonia carneola* (Fr.) Fr. var. *scyphosa* Hepp = *Cladonia carneola*  
*Cladonia cariosa* (Ach.) Spreng. f. *cariosa* = *Cladonia cariosa*  
*Cladonia cariosa* (Ach.) Spreng. var. *corticata* Vain. = *Cladonia cariosa*  
*Cladonia cariosa* (Ach.) Spreng. var. *cribrosa* (Wallr.) Vain. = *Cladonia cariosa*  
*Cladonia cenotea* (Ach.) Schaer. f. *crossota* Ach. = *Cladonia cenotea*  
*Cladonia cenotea* (Ach.) Schaer. var. *crossota* (Ach.) Nyl. = *Cladonia cenotea*  
*Cladonia cenotea* (Ach.) Schaer. var. *exaltata* Nyl. = *Cladonia cenotea*  
*Cladonia cenotea* (Ach.) Schaer. var. *viminalis* Flörke = *Cladonia cenotea*  
*Cladonia cenotea* (Ach.) Schaer. f. *prolifera* Schaer. = *Cladonia cenotea*  
*Cladonia cervicornis* (Ach.) Flot. ssp. *verticillata* (Hoffm.) Ahti = *Cladonia verticillata*  
*Cladonia ciliata* Stirt. sensu auct. Belarus = *Cladonia tenuis*  
*Cladonia ciliata* Stirt. var. *tenuis* (Flörke) Ahti = *Cladonia tenuis*  
*Cladonia ciliata* Stirt. f. *flavicans* (Flörke) Ahti & De Priest = *Cladonia tenuis*  
*Cladonia coccifera* (L.) Willd. var. *coccifera* = *Cladonia coccifera*  
*Cladonia coccifera* (L.) Willd. var. *pleurota* (Flörke) Schaer. = *Cladonia pleurota*  
*Cladonia coccifera* (L.) Willd. var. *stematina* (Ach.) Vain. f. *phyllocoma* Flörke = *Cladonia coccifera*  
*Cladonia coniocraea* (Flörke) Spreng. f. *phyllostrata* (Flörke) Oksner = *Cladonia coniocraea*  
*Cladonia coniocraea* (Flörke) Spreng. f. *pycnotheliza* (Nyl.) Vain. = *Cladonia coniocraea*  
*Cladonia cornuta* (L.) Schaer. f. *cornuta* = *Cladonia cornuta*  
*Cladonia cornuta* (L.) Schaer. f. *obtrusa* Küllh. = *Cladonia cornuta*  
*Cladonia cornuta* (L.) Schaer. f. *phyllostoca* (Flörke) Arnold = *Cladonia cornuta*

*Cladonia cornutoradiata* (Coem.) Zopf = *Cladonia subulata*  
*Cladonia cornutoradiata* (Coem.) Zopf f. *capreolata* (Flörke) Flot.  
*Cladonia cornutoradiata* (Coem.) Zopf f. *radiata* (Schreb.) Coem. = *Cladonia subulata*  
*Cladonia cornutoradiata* (Coem.) Zopf f. *subacuminata* Vain.  
*Cladonia cornutoradiata* (Coem.) Zopf f. *subulata* (L.) Vain. = *Cladonia subulata*  
*Cladonia crispata* (Ach.) Flot. var. *cetrariiformis* (Delise) Vain. = *Cladonia crispata*  
*Cladonia crispata* (Ach.) Flot. var. *crispata* = *Cladonia crispata*  
*Cladonia crispata* (Ach.) Flot. var. *dilacerata* (Schaer.) Malbr. = *Cladonia crispata*  
*Cladonia crispata* (Ach.) Flot. var. *divulsa* (Delise) Arnold = *Cladonia crispata*  
*Cladonia crispata* (Ach.) Flot. var. *elegans* (Delise) Vain. = *Cladonia crispata*  
*Cladonia crispata* (Ach.) Flot. var. *gracilescens* (Rabenh.) Vain. = *Cladonia crispata*  
*Cladonia crispata* (Ach.) Flot. var. *infundibulifera* (Schaer.) Vain. = *Cladonia crispata*  
*Cladonia deformis* (L.) Hoffm. f. *crenulata* (Ach.) Nyl. = *Cladonia deformis*  
*Cladonia deformis* (L.) Hoffm. f. *deformis* = *Cladonia deformis*  
*Cladonia deformis* (L.) Hoffm. f. *gonecha* Ach. = *Cladonia sulphurina*  
*Cladonia degenerans* (Flörke) Spreng. = *Cladonia phyllophora*  
*Cladonia degenerans* (Flörke) Spreng. var. *cladomorpha* (Ach.) Vain. = *Cladonia phyllophora*  
*Cladonia degenerans* (Flörke) Spreng. var. *dilacerata* Schaer. = *Cladonia phyllophora*  
*Cladonia degenerans* (Flörke) Spreng. var. *phyllophora* (Ehrh.) Flörke = *Cladonia phyllophora*  
*Cladonia degenerans* (Flörke) Spreng. f. *cladomorpha* (Ach.) Vain. = *Cladonia phyllophora*  
*Cladonia degenerans* (Flörke) Spreng. f. *dilacerata* Schaer. = *Cladonia phyllophora*  
*Cladonia degenerans* (Flörke) Spreng. f. *euphorea* (Ach.) Flörke = *Cladonia phyllophora*  
*Cladonia degenerans* (Flörke) Spreng. f. *phyllophora* (Ehrh.) Flörke = *Cladonia phyllophora*  
*Cladonia delicata* (Ehrh.) Flörke = *Cladonia parasitica*  
*Cladonia delicata* (Ehrh.) Flörke f. *quercina* (Pers.) Vain. = *Cladonia parasitica*  
*Cladonia digitata* (L.) Hoffm. f. *brachytes* (Ach.) Vain. = *Cladonia digitata*  
*Cladonia digitata* (L.) Hoffm. f. *ceruchoides* Vain. = *Cladonia digitata*  
*Cladonia digitata* (L.) Hoffm. f. *monstrosa* (Ach.) Vain. = *Cladonia digitata*  
*Cladonia fimbriata* (L.) Fr. f. *exillis* (Hoffm.) Zahlbr. = *Cladonia fimbriata*  
*Cladonia fimbriata* (L.) Fr. f. *fimbriata* = *Cladonia fimbriata*  
*Cladonia fimbriata* (L.) Fr. f. *major* (K.G. Hagen) Vain. = *Cladonia fimbriata*  
*Cladonia fimbriata* (L.) Fr. var. *apolepta* (Ach.) Vain. = *Cladonia coniocraea*  
*Cladonia fimbriata* (L.) Fr. var. *apolepta* (Ach.) Vain. f. *coniocraea* Flörke = *Cladonia coniocraea*  
*Cladonia fimbriata* (L.) Fr. var. *apolepta* (Ach.) Vain. f. *ochrochlora* (Flörke) Vain. = *Cladonia coniocraea*  
*Cladonia fimbriata* (L.) Fr. var. *apolepta* (Ach.) Vain. f. *epiphylla* (Flot.) Kreyer = *Cladonia coniocraea*  
*Cladonia fimbriata* (L.) Fr. var. *cornutoradiata* Coem. f. *olata* (Flörke) Flot. = *Cladonia subulata*  
*Cladonia fimbriata* (L.) Fr. var. *cornutoradiata* Coem. f. *radiata* (Schreb.) Coem. = *Cladonia subulata*  
*Cladonia fimbriata* (L.) Fr. var. *cornutoradiata* Coem. f. *subacuminata* Vain. = *Cladonia rei*  
*Cladonia fimbriata* (L.) Fr. var. *cornutoradiata* Coem. f. *subulata* (L.) Vain. = *Cladonia subulata*  
*Cladonia fimbriata* (L.) Fr. var. *ochrochlora* (Flörke) Vain. = *Cladonia coniocraea*  
*Cladonia fimbriata* (L.) Fr. var. *prolifera* (Retz.) A. Massal. = *Cladonia chlorophaea* s. lat.  
*Cladonia fimbriata* (L.) Fr. var. *simplex* (Weiss) Flot. = *Cladonia fimbriata*  
*Cladonia fimbriata* (L.) Fr. var. *simplex* (Weiss) Flot. f. *epistelis* Kreyer = *Cladonia fimbriata*  
*Cladonia fimbriata* (L.) Fr. var. *simplex* (Weiss) Flot. f. *major* (K.G. Hagen) Vain. = *Cladonia fimbriata*  
*Cladonia fimbriata* (L.) Fr. var. *simplex* (Weiss) Flot. f. *minor* (K.G. Hagen) Vain. = *Cladonia fimbriata*  
*Cladonia flabelliformis* (Flörke) Vain. f. *ochracea* Aigret = *Cladonia polydactyla*  
*Cladonia flabelliformis* (Flörke) Vain. f. *tubaeformis* Mudd. = *Cladonia polydactyla*  
*Cladonia floerkeana* (Fr.) Sommerf. f. *epistelis* Oksner = *Cladonia floerkeana*  
*Cladonia floerkeana* (Fr.) Sommerf. var. *carcata* (Ach.) Nyl. = *Cladonia floerkeana*  
*Cladonia floerkeana* (Fr.) Sommerf. var. *chloroides* (Flörke) Vain. = *Cladonia floerkeana*  
*Cladonia floerkeana* (Fr.) Sommerf. var. *floerkeana* = *Cladonia floerkeana*  
*Cladonia floerkeana* (Fr.) Sommerf. var. *intermedia* Hepp = *Cladonia floerkeana*  
*Cladonia furcata* (Huds.) Schrad. var. *furcata* (Hoffm.) Flörke = *Cladonia furcata* ssp. *furcata*  
*Cladonia furcata* (Huds.) Schrad. var. *palamaea* (Ach.) Nyl. = *Cladonia furcata* ssp. *subrangiformis*  
*Cladonia furcata* (Huds.) Schrad. var. *pinnata* (Flörke) Vain. = *Cladonia furcata* ssp. *furcata*  
*Cladonia furcata* (Huds.) Schrad. var. *pinnata* (Flörke) Vain. f. *foliosa* Del. = *Cladonia furcata* ssp. *furcata*

*Cladonia furcata* (Huds.) Schrad. var. *racemosa* (Hoffm.) Flörke = *Cladonia furcata* ssp. *furcata*  
*Cladonia furcata* (Huds.) Schrad. var. *racemosa* (Hoffm.) Flörke f. *corymbosa* (Ach.) Nyl. = *Cladonia furcata* ssp. *furcata*  
*Cladonia furcata* (Huds.) Schrad. var. *racemosa* (Hoffm.) Flörke f. *furcatosubulata* Hoffm. = *Cladonia furcata* ssp. *furcata*  
*Cladonia gonecha* (Ach.) Asahina = *Cladonia sulphurina*  
*Cladonia gracilis* (L.) Willd. var. *chordalis* (Flörke) Schaer. = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. var. *chordalis* (Flörke) Schaer. f. *leucochlora* Flörke = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. var. *dilacerata* Flörke = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. var. *dilatata* (Hoffm.) Vain. = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. var. *elongata* (Jacq.) Flörke = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. var. *elongata* (Jacq.) Flörke f. *hugueninii* (Del.) Vain. = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. var. *elongata* (Jacq.) Flörke f. *subdilacerata* Vain. = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. var. *elongata* (Jacq.) Flörke f. *phyllophora* Rabenh. = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. var. *gracilis* = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. f. *anthocephala* Flörke = *Cladonia gracilis*  
*Cladonia gracilis* (L.) Willd. f. *mesothera* Wallr. = *Cladonia gracilis*  
*Cladonia impexa* Harm. = *Cladonia portentosa*  
*Cladonia impexa* Harm. f. *condensata* (Flörke) Coem. = *Cladonia portentosa*  
*Cladonia impexa* Harm. f. *impexa* = *Cladonia portentosa*  
*Cladonia impexa* Harm. f. *laxiuscula* (Del.) Vain. = *Cladonia implexa*  
*Cladonia impexa* Harm. f. *portentosa* (Duf.) Harm. = *Cladonia portentosa*  
*Cladonia incrassata* Flörke f. *epiphylla* Fr. = *Cladonia incrassata*  
*Cladonia incrassata* Flörke f. *incrassata* = *Cladonia incrassata*  
*Cladonia laxiuscula* (Del.) Sandst. = *Cladonia portentosa*  
*Cladonia macilenta* Hoffm. ssp. *floerkeana* (Fr.) V. Wirth = *Cladonia floerkeana*  
*Cladonia macilenta* Hoffm. var. *macilenta* = *Cladonia macilenta*  
*Cladonia macilenta* Hoffm. var. *ostreata* Nyl. = *Cladonia macilenta*  
*Cladonia macilenta* Hoffm. var. *styracella* (Ach.) Vain. = *Cladonia macilenta*  
*Cladonia macrophylla* (Schaer.) Stenh. f. *mougeotii* (Delise ex Vain.) J.W. Thomson = *Cladonia macrophylla*  
*Cladonia major* (K.G. Hagen) Sandst. = *Cladonia fimbriata*  
*Cladonia mitis* Sandst. = *Cladonia arbuscula* ssp. *mitis*  
*Cladonia nemoxyna* (Ach.) Nyl. = *Cladonia rei*  
*Cladonia ochrochlora* Flörke = *Cladonia coniocraea*  
*Cladonia papillaria* (Ehrh.) Hoffm. = *Pycnothelia papillaria*  
*Cladonia pityrea* (Flörke) Fr. = *Cladonia ramulosa*  
*Cladonia pityrea* (Flörke) Fr. f. *crassiuscula* (Coem.) Vain. = *Cladonia ramulosa*  
*Cladonia pleurota* (Flörke) Schaer. f. *phyllocoma* Flörke = *Cladonia pleurota*  
*Cladonia pyxidata* (L.) Hoffm. ssp. *chlorophaea* (Sommerf.) V. Wirth = *Cladonia chlorophaea*  
*Cladonia pyxidata* (L.) Hoffm. ssp. *pocillum* (Ach.) Å.E. Dahl = *Cladonia pocillum*  
*Cladonia pyxidata* (L.) Fr. var. *chlorophaea* Flörke = *Cladonia chlorophaea*  
*Cladonia pyxidata* (L.) Fr. var. *neglecta* (Flörke) A. Massal. = an uncertain species from *Cladonia chlorophaea* agg.  
*Cladonia pyxidata* (L.) Th. Fr. var. *neglecta* (Flörke) A. Massal. f. *lophyra* Ach. = an uncertain species from *Cladonia chlorophaea* agg.  
*Cladonia pyxidata* (L.) Hoffm. var. *pyxidata* = *Cladonia pyxidata*  
*Cladonia rangiferina* (L.) F.H. Wigg. f. *tecticola* Savicz = *Cladonia rangiferina*  
*Cladonia rei* Schaer. f. *phyllocephala* Arnold = *Cladonia rei*  
*Cladonia squamosa* (Scop.) Hoffm. var. *denticollis* (Hoffm.) Flörke = *Cladonia squamosa*  
*Cladonia squamosa* (Scop.) Hoffm. var. *denticollis* (Hoffm.) Flörke f. *squamosissima* (Flörke) Vain. = *Cladonia squamosa*  
*Cladonia squamosa* (Scop.) Hoffm. var. *multibrachiata* Flörke f. *turfacea* Rehm = *Cladonia squamosa*  
*Cladonia squamosa* (Scop.) Hoffm. var. *multibrachiata* Flörke f. *pityrea* (Arnold) Vain. = *Cladonia squamosa*  
*Cladonia squamosa* (Scop.) Hoffm. var. *multibrachiata* Flörke f. *phyllocoma* Vain. = *Cladonia squamosa*



*Cladonia squamosa* (Scop.) Hoffm. var. *multibrachiata* Flörke f. *pseudocrispata* Sandst. = *Cladonia squamosa*  
*Cladonia squamosa* (Scop.) Hoffm. var. *muricella* (Del.) Vain. = *Cladonia squamosa*  
*Cladonia squamosa* (Scop.) Hoffm. var. *phyllocoma* Rabenh. = *Cladonia squamosa*  
*Cladonia squamosa* (Scop.) Hoffm. var. *squamosa* = *Cladonia squamosa*  
*Cladonia subrangiformis* Sandst. = *Cladonia furcata* ssp. *subrangiformis*  
*Cladonia subulata* (L.) F.H. Wigg. f. *furcellata* (Hoffm.) J.C. Wei = *Cladonia subulata*  
*Cladonia sylvatica* (L.) Hoffm. = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladonia sylvatica* (L.) Hoffm. var. *sylvestris* Oeder = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladonia sylvatica* (L.) Hoffm. var. *sylvestris* Oeder f. *pumila* (Ach.) Rabenh. = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladonia sylvatica* (L.) Hoffm. var. *sylvestris* Oeder f. *caespitosa* Rabenh. = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladonia sylvatica* (L.) Hoffm. var. *sylvestris* Oeder f. *sphagnoides* Flörke = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladonia sylvatica* (L.) Hoffm. f. *arbuscula* (Wahlbr.) Körb. = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladonia sylvatica* (L.) Hoffm. f. *condensata* (Flörke) Coem. = *Cladonia portentosa*  
*Cladonia sylvatica* (L.) Hoffm. f. *myriocarpa* Coem. = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladonia sylvatica* (L.) Hoffm. f. *tectorum* Savicz = *Cladonia arbuscula* ssp. *arbuscula*  
*Cladonia sylvatica* (L.) Hoffm. f. *tenuis* (Flörke) Coem. = *Cladonia tenuis*  
*Cladonia verticillata* Hoffm. var. *cervicornis* (Ach.) Flörke = *Cladonia cervicornis*  
*Cladonia verticillata* Hoffm. var. *evoluta* (Th. Fr.) Stein = *Cladonia verticillata*  
*Cladonia verticillata* Hoffm. var. *evoluta* (Th. Fr.) Stein f. *phyllocephala* Flot. = *Cladonia verticillata*  
*Cladonia verticillata* Hoffm. var. *evoluta* (Th. Fr.) Stein f. *apotiata* Ach. = *Cladonia verticillata*  
*Cladonia verticillata* (Hoffm.) Schaer. var. *verticillata* = *Cladonia verticillata*  
*Coelocaulon aculeatum* (Schreb.) Link = *Cetraria aculeata*  
*Coelocaulon aculeatum* (Schreb.) Link f. *vagans* Golubkov nom. nud. = *Cetraria aculeata*  
*Coelocaulon muricatum* (Ach.) J.R. Laundon = *Cetraria muricata*  
*Collema auriculatum* Hoffm. = *Lathagrium auriforme*  
*Collema crispum* (Huds.) Weber ex F.H. Wigg. = *Blennothallia crispa*  
*Collema cristatum* (L.) Weber ex F.H. Wigg. = *Lathagrium cristatum*  
*Collema limosum* (Ach.) Ach. = *Enchylium limosum*  
*Collema pulposum* (Bernr.) Ach. = *Enchylium tenax*  
*Collema pulposum* (Bernr.) Ach. f. *nudum* Schaer. = *Enchylium tenax*  
*Collema tenax* (Sw.) Ach. = *Enchylium tenax*  
*Collema tenax* (Sw.) Körb. var. *coronatum* Körb. = *Enchylium tenax*  
*Coniocybe furfuracea* (L.) Fr. = *Chaenotheca furfuracea*  
*Coniocybe gracilentia* Ach. = *Chaenotheca gracilentia*  
*Coniocybe sulphurea* (Retz.) Nyl. = *Chaenotheca brachypoda*  
*Cornicularia aculeata* (Schreb.) Ach. = *Cetraria aculeata*  
*Cornicularia aculeata* (Schreb.) Ach. var. *alpina* Schaer. = *Cetraria aculeata*  
*Cornicularia aculeata* (Schreb.) Ach. var. *acanthella* (Ach.) H. Magn. = *Cetraria aculeata*  
*Cornicularia tenuissima* (L.) Sav. = *Cetraria aculeata*  
*Cybebe gracilentia* (Ach.) Tibell = *Chaenotheca gracilentia*  
*Cyphelium chrysocephalum* Ach. f. *filiare* Ach. = *Chaenotheca chrysocephala*  
*Cyphelium melanophaeum* (Ach.) A. Massal. = *Chaenotheca ferruginea*  
*Cyphelium stemoneum* (Ach.) De Not. f. *viride* Fr. = *Chaenotheca stemonea*  
*Cyphelium trichiale* (Ach.) A. Massal. = *Chaenotheca trichialis*  
*Cyphelium trichiale* (Ach.) A. Massal. var. *cinereum* Pers. = *Chaenotheca trichialis*  
*Cyphelium viridescens* (Lilj.) Vain. = *Cyphelium tigillare*  
  
*Dermatocarpon cinereum* (Pers.) Th. Fr. = *Catapyrenium cinereum*  
*Dimerella diluta* (Pers.) Trevis. = *Coenogonium pineti*  
*Dimerella pineti* (Schr. ex Ach.) Vězda = *Coenogonium pineti*  
*Diplotomma alboatrum* (Hoffm.) Körb. f. *ambigua* (Ach.) Th. Fr. = *Diplotomma alboatrum*

*Endopyrenium cinereum* (Pers.) Oksner = *Catapyrenium cinereum*  
*Endopyrenium desertorum* (Tomin) Oksner nom. inval. = *Placidium squamulosum*  
*Endopyrenium desertorum* (Tomin) Dzhur. = *Placidium squamulosum*  
*Endopyrenium hepaticum* (Ach.) Körb. = *Catapyrenium cinereum*  
*Evernia furfuracea* (L.) W. Mann. = *Pseudevernia furfuracea*  
*Evernia furfuracea* (L.) W. Mann. f. *nuda* (Ach.) Nyl. = *Pseudevernia furfuracea*  
*Evernia furfuracea* (L.) W. Mann. f. *scobicina* (Ach.) Nyl. = *Pseudevernia furfuracea*  
*Evernia furfuracea* (L.) W. Mann. f. *ceratea* (Ach.) Opiz = *Pseudevernia furfuracea*  
*Evernia prunastri* Ach. var. *prunastri* = *Evernia prunastri*  
*Evernia prunastri* Ach. var. *sorediifera* Ach. = *Evernia prunastri*  
*Evernia prunastri* (L.) Ach. f. *epiphylla* Savicz = *Evernia prunastri*  
*Evernia prunastri* (L.) Ach. f. *lignicola* Tomin = *Evernia prunastri*  
*Evernia prunastri* (L.) Ach. f. *retusa* Ach. = *Evernia prunastri*  
*Evernia thamnodes* (Flot.) Arnold = *Evernia mesomorpha*  
*Evernia thamnodes* (Flot.) Arnold f. *terricola* Kreyer = *Evernia mesomorpha*

*Foraminella ambigua* (Wulfen) Fricke-Mayer = *Parmeliopsis ambigua*  
*Foraminella hyperopta* (Ach.) S.L.F. Mey. = *Parmeliopsis hyperopta*

*Gallowayella coppinsii* (S.Y. Kondr. & Kärnefelt) S.Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix, J.-S. Hur & A. Thell = *Xanthomendoza coppinsii*  
*Gallowayella fulva* (Hoffm.) S.Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix, J.-S. Hur & A. Thell = *Xanthomendoza fulva*  
*Gasparrinia decipiens* (Arnold) Syd. = *Calogaya pusilla*  
*Graphis scripta* (L.) Ach. f. *recta* Humb. = *Graphis scripta*  
*Graphis scripta* (L.) Ach. f. *serpentina* Ach. = *Graphis scripta*  
*Graphis scripta* (L.) Ach. var. *limitata* (Ach.) Schaer. = *Graphis scripta*  
*Graphis scripta* (L.) Ach. var. *pulverulenta* (Pers.) Ach. = *Graphis scripta*  
*Graphis scripta* (L.) Ach. var. *recta* (Humb.) Körb. f. *macrocarpa* Ach. = *Graphis scripta*  
*Graphis scripta* (L.) Ach. var. *typographica* (Willd.) Zahlbr. = *Graphis scripta*

*Haematomma elatinum* (Ach.) A. Massal. = *Loxospora elatina*  
*Haematomma leiphaemum* (Ach.) Sandst. = *Haematomma ochroleucum*  
*Hafellia disciformis* (Fr.) Marbach & H. Mayrhofer = *Buellia disciformis*  
*Huilia crustulata* (Ach.) Hertel = *Porpidia crustulata*  
*Huilia soredizodes* (Lamy) Hertel = *Porpidia soredizodes*  
*Hypocenomyce anthracophila* (Nyl.) P. James & Gotth. Schneid. = *Carbonicola anthracophila*  
*Hypocenomyce friesii* (Ach.) P. James & Gotth. Schneid. = *Xylopsora friesii*  
*Hypogymnia bitteriana* (Zahlbr.) Räsänen = *Hypogymnia farinacea*  
*Hypogymnia physodes* (L.) Nyl. f. *physodes* Ach. = *Hypogymnia physodes*  
*Hypogymnia physodes* (L.) Nyl. f. *cassidiformis* (Vereit.) Hakul. = *Hypogymnia physodes*  
*Hypogymnia physodes* (L.) Nyl. f. *epiphylla* (Savicz) Rass. = *Hypogymnia physodes*  
*Hypogymnia physodes* (L.) Nyl. f. *platyphylla* (Ach.) Rass. = *Hypogymnia physodes*  
*Hypogymnia physodes* (L.) Nyl. f. *subcrustacea* (Flot.) Rass. = *Hypogymnia physodes*  
*Hypogymnia physodes* (L.) Nyl. f. *vittatoides* (Mereschk.) Räsänen = *Hypogymnia physodes*  
*Hypogymnia tubulosa* (Schaer.) Hav. f. *farinosa* (Hillmann) Rass. = *Hypogymnia tubulosa*  
*Hypogymnia vittata* (Ach.) Gas. f. *vittata* = *Hypogymnia vittata*

*Icmadophila aeruginosa* (Scop.) Trevis. = *Icmadophila ericetorum*

*Lecanactis deminuens* (Nyl.) Elenk. = *Cresponea chloroconia*  
*Lecania dimera* (Nyl.) Th. Fr. = *Lecania dubitans*  
*Lecania hyalina* (Fr.) R. Sant. = *Biatora globulosa*  
*Lecania prasinoidea* Elenk. var. *suaveolens* Elenk. = *Lecania prasinoidea*  
*Lecania syringea* (Ach.) Th. Fr. = *Lecania fuscella*  
*Lecania syringea* (Ach.) Th. Fr. var. *pulla* Kreyer = *Lecania fuscella*

*Lecania syringea* (Ach.) Th. Fr. f. *nuda* Kreyer = *Lecania fuscella*  
*Lecanora albella* (Pers.) Ach. f. *chondrotypa* (Ach.) Th. Fr. = *Lecanora albella*  
*Lecanora allophana* Nyl. f. *argentata* Ach. = *Lecanora argentata*  
*Lecanora allophana* Nyl. f. *glabrata* (Ach.) Savicz = *Lecanora glabrata*  
*Lecanora angulosa* (Schreb.) Ach. = *Lecanora carpineae*  
*Lecanora atra* (Huds.) Ach. = *Tephromela atra*  
*Lecanora calcarea* (L.) Körb. var. *contorta* (Hoffm.) Körb. = *Circinaria contorta*  
*Lecanora carpineae* (L.) Vain. f. *typica* Kreyer = *Lecanora carpineae*  
*Lecanora carpineae* (L.) Vain. f. *caesionigra* Kreyer = *Lecanora carpineae*  
*Lecanora carpineae* (L.) Vain. var. *inquinata* Kreyer = *Lecanora carpineae*  
*Lecanora carpineae* (L.) Vain. f. *carneo-fuscescens* Kreyer = *Lecanora carpineae*  
*Lecanora chlarona* (Ach.) Nyl. = *Lecanora pulicaris*  
*Lecanora chlarona* (Ach.) Nyl. var. *pinastri* Ach. = *Lecanora pulicaris*  
*Lecanora chlarotera* Nyl. f. *rugosella* (Zahlbr.) Poelt = *Lecanora chlarotera*  
*Lecanora chloropolia* (Erichsen) Almb. = *Lecanora impudens*  
*Lecanora cinerea* (L.) A. Massal. = *Aspicilia cinerea*  
*Lecanora coilocarpa* (Ach.) Nyl. = *Lecanora pulicaris*  
*Lecanora coilocarpa* (Ach.) Nyl. var. *pinastri* (Ach.) Elenk. = *Lecanora pulicaris*  
*Lecanora coilocarpa* (Ach.) Nyl. f. *albocrustacea* Kreyer = *Lecanora pulicaris*  
*Lecanora conizaea* (Ach.) Nyl. = *Lecanora expallens*  
*Lecanora crassula* H. Magn. = *Lecanora chlarotera*  
*Lecanora crenulata* (Dicks.) Hook. = *Myriolecis crenulata*  
*Lecanora dispersa* (Pers.) Röhl. = *Myriolecis dispersa*  
*Lecanora distans* (Pers.) Nyl. = *Lecanora populicola*  
*Lecanora filamentosa* (Stirt.) Elix & Palice = *Palicella filamentosa*  
*Lecanora glaucella* (Flörke) Nyl. = *Lecanora albellula*  
*Lecanora hagenii* (Ach.) Ach. = *Myriolecis hagenii*  
*Lecanora hagenii* Ach. var. *umbrina* (Ehrh.) A. Massal. = *Lecanora umbrina*  
*Lecanora mutabilis* Nyl. = *Megaspora verrucosa*  
*Lecanora muralis* (Schreb.) Rabenh. = *Protoparmeliopsis muralis*  
*Lecanora pallescens* (L.) Röhl. = *Ochrolechia pallescens*  
*Lecanora pallida* (Schreb.) Rabenh. = *Lecanora albella*  
*Lecanora pinastri* (Schaer.) H. Magn. = *Lecanora pulicaris*  
*Lecanora piniperda* Körb. = *Lecanora albellula*  
*Lecanora polytropia* (Ehrh.) Th. Fr. var. *illusoria* Ach. = *Lecanora polytropia*  
*Lecanora polytropia* (Ehrh.) Th. Fr. f. *illusoria* Ach. = *Lecanora polytropia*  
*Lecanora rugosella* Zahlbr. = *Lecanora chlarotera*  
*Lecanora sambuci* (Pers.) Nyl. = *Myriolecis sambuci*  
*Lecanora subfusca* auct. non (L.) Ach. = *Lecanora argentata*  
*Lecanora subfusca* (L.) Ach. nom. rej. = *Lecanora allophana* f. *allophana*  
*Lecanora subfusca* (L.) Ach. var. *argentata* Ach. = *Lecanora argentata*  
*Lecanora subfusca* (L.) Ach. var. *chlarona* Nyl. = *Lecanora pulicaris*  
*Lecanora subfusca* (L.) Ach. var. *transcendens* Ach. = *Lecanora allophana* f. *allophana*  
*Lecanora subfuscata* H. Magn. = *Lecanora argentata*  
*Lecanora subrugosa* Nyl. = *Lecanora argentata*  
*Lecanora symmicta* (Ach.) Ach. = *Palicella filamentosa*  
*Lecanora symmicta* Ach. var. *sepincola* Ach. = *Palicella filamentosa*  
*Lecanora symmicta* Nyl. = *Palicella filamentosa*  
*Lecanora umbrina* (Ehrh.) Röhl. = *Lecanora umbrina*  
*Lecanora umbrina* (Ehrh.) A. Massal. = *Lecanora umbrina*  
*Lecanora umbrina* (Ehrh.) A. Massal. f. *caesio-pruinosa* Elenk. = *Lecanora umbrina*  
*Lecanora umbrina* (Ehrh.) A. Massal. var. *lithophila* (Wallr.) Körb. = *Lecanora umbrina*  
*Lecidea aeruginosa* Borrer = *Trapeliopsis flexuosa*  
*Lecidea areolata* (Kreyer) Zahlbr. = *Biatora areolata*  
*Lecidea atroviridis* (Ach.) Th. Fr. = *Biatora ocelliformis*  
*Lecidea botryosa* (Fr.) Nyl. = *Hertelidea botryosa*



*Lecidea caesioatra* Schaer. = *Frutidella caesioatra*  
*Lecidea cinereoatra* Ach. = *Porpidia cinereoatra*  
*Lecidea coarctata* f. *cotaria* (Ach.). = *Trapelia coarctata*  
*Lecidea coarctata* f. *elachista* (Ach.) Th. Fr. = *Trapelia involuta*  
*Lecidea coarctata* f. *ornata* (Sommerf.) Th. Fr. = *Trapelia glebulosa*  
*Lecidea contigua* (Ach.) Fr. = *Porpidia macrocarpa*  
*Lecidea crustulata* (Ach.) Spreng. = *Porpidia crustulata*  
*Lecidea crustulata* (Ach.) Körb. var. *cinereoatra* Ach. = *Porpidia cinereoatra*  
*Lecidea crustulata* Ach. f. *subconcentrica* Stein = *Porpidia crustulata*  
*Lecidea elabens* Fr. = *Ramboldia elabens*  
*Lecidea elaeochroma* (Ach.) Choisy = *Lecidella elaeochroma*  
*Lecidea erratica* Körb. = *Leimonis erratica*  
*Lecidea euphorea* (Flörke) Nyl. = *Lecidella euphorea*  
*Lecidea flexuosa* (Fr.) Nyl. = *Trapeliopsis flexuosa*  
*Lecidea fuscocinerea* Nyl. f. *subgyrosa* Kreyer = *Schaereria fuscocinerea*  
*Lecidea fuscorubens* Nyl. = *Clauzadea monticola*  
*Lecidea glomerulosa* (DC.) Steud. = *Lecidella euphorea*  
*Lecidea glomerulosa* (DC.) Nyl. var. *achrista* Sommerf. = *Lecidella euphorea*  
*Lecidea glomerulosa* (DC.) Nyl. var. *euphorea* Flörke = *Lecidella euphorea*  
*Lecidea goniophila* Flörke = *Lecidella anomaloides*  
*Lecidea granulosa* (Hoffm.) Ach. = *Trapeliopsis granulosa*  
*Lecidea humosa* (Hoffm.) Leight. = *Placynthiella uliginosa*  
*Lecidea incongrua* Nyl. f. *spathea* Vain. = *Lecidella stigmataea*  
*Lecidea latypea* Ach. = *Lecidella carpathica*  
*Lecidea latypiza* Nyl. = *Lecidella carpathica*  
*Lecidea lynceola* Th. Fr. = *Micarea lynceola*  
*Lecidea macrocarpa* (DC.) Steud. = *Porpidia macrocarpa*  
*Lecidea meiospora* Nyl. – A name of uncertain application  
*Lecidea monticola* (Ach.) Schaer. = *Clauzadea monticola*  
*Lecidea musiva* Körb. = *Porpidia cinereoatra*  
*Lecidea obscurella* (Sommerf.) Arnold = *Lecanora phaeostigma*  
*Lecidea oligotropha* J.R. Laundon = *Placynthiella oligotropha*  
*Lecidea olivacea* (Hoffm.) A. Massal. = *Lecidella elaeochroma*  
*Lecidea ostreata* Hoffm. = *Hypocenomyce scalaris*  
*Lecidea parasema* (Ach.) Ach. – infrasubspecific name of unknown status  
*Lecidea platycarpa* Ach. = *Porpidia macrocarpa*  
*Lecidea pungens* (Körb.) Nyl. = *Lecidella anomaloides*  
*Lecidea querneae* (Dicks.) Ach. = *Pyrrhospora querneae*  
*Lecidea sanguineatra* (Wulfen) Lönnrot. = *Bryobilimbia sanguineatra*  
*Lecidea scalaris* Ach. = *Hypocenomyce scalaris*  
*Lecidea steriza* (Ach.) Vain. = *Porpidia macrocarpa*  
*Lecidea stigmataea* Ach. = *Lecidella stigmataea*  
*Lecidea sylvana* (Körb.) Th. Fr. = *Biatora globulosa*  
*Lecidea sylvicola* Flot. = *Brianaria sylvicola*  
*Lecidea symmicta* Ach. = *Palicella filamentosa*  
*Lecidea tuberculata* Sommerf. = *Brianaria tuberculata*  
*Lecidea uliginosa* (Schrad.) Ach. = *Placynthiella uliginosa*  
*Lecidea vernalis* (L.) Fr. = *Biatora vernalis*  
*Lecidea viridescens* (Schrad.) Ach. = *Trapeliopsis viridescens*  
*Lepraria aeruginosa* Sm. – the name can be applied to various sterile crustose soorediate species  
*Lepraria candelaria* (L.) Fr. = *Chrysothrix candelaris*  
*Lepraria chlorina* Ach. = *Chrysothrix chlorina*  
*Lepraria lobificans* Nyl. sensu auct. Belarus = *Lepraria finkii*  
*Leptogium crenatellum* Tuck. = *Leptogium rivulare*  
*Leptogium gelatinosum* (With.) J.R. Laundon = *Scytinium gelatinosum*  
*Leptogium lacerum* (Sw.) Gray var. *pulvinatum* Ach. = *Scytinium lichenoides*

Leptogium lichenoides (L.) Zahlbr. = Scytinium lichenoides  
 Leptogium sinuatum (Huds.) A.Massal. = Scytinium gelatinosum  
 Leptogium subtile (Schrad.) Torss. = Scytinium subtile  
 Leptogium tenuissimum (Dicks.) Körb. = Scytinium tenuissimum  
 Leptogium minutissimum (Flörke) Schaer. = Scytinium subtile  
 #Leptorhaphis epidermidis (Ach.) Stein f. fuispora Flot. = Leptorhaphis epidermidis  
 Leptorhaphis tremulae Körb. = Leptorhaphis atomaria  
 Letharia divaricata (L.) Ach. = Evernia divaricata  
 Lichen apthosus L. = Peltigera apthosa  
 Lichen barbatus L. = Usnea barbata  
 Lichen calicaris L. = Ramalina calicaris  
 Lichen candelarius L. = Polycauliona candelaria  
 Lichen caninus L. = Peltigera canina  
 Lichen caperatus L. = Flavoparmelia caperata  
 Lichen chalybeiformis L. = Bryoria fuscescens  
 Lichen ciliaris L. = Anaptychia ciliaris  
 Lichen cocciferus L. = Cladonia coccifera  
 Lichen cornutus L. = Cladonia cornuta  
 Lichen crispus L. = Blennothallia crispa  
 Lichen crustaceus Gilib. = Stereocaulon paschale  
 Lichen ericetorum L. = Icmadophila ericetorum  
 Lichen eryngiifolius [eryngii folio] Gilib. = Cetraria islandica  
 Lichen farinaceus L. = Ramalina farinacea  
 Lichen fimbriatus L. = Cladonia fimbriata  
 Lichen floridus L. = Usnea florida  
 Lichen fragilis L. = misidentification  
 Lichen fraxineus L. = Ramalina fraxinea  
 Lichen furfuraceus L. = Pseudevernia furfuracea  
 Lichen geographicus L. = Rhizocarpon geographicum  
 Lichen gracilis L. = Cladonia gracilis  
 Lichen hirtus L. = Usnea hirta  
 Lichen incanus L. = Lepraria incana, but in fact the name can be applied to various sterile crustose  
     sorediate species  
 Lichen incarnatus Gilib. = Dibaeis baeomyces  
 Lichen jubatus L. – name can be applied to various pendent species of Bryoria (see Brodo & Hawksworth  
     1977, Esslinger 2016)  
 Lichen lacteus L. = Varicellaria lactea  
 Lichen luteus Gilib. = Polycauliona candelaria  
 Lichen olivaceus L. = Melanohalea olivacea  
 Lichen parietinus L. = Xanthoria parietina  
 Lichen paschalis L. = Stereocaulon paschale  
 Lichen perlatus L. = Parmotrema perlatum  
 Lichen physodes L. = Hypogymnia physodes  
 Lichen prunastri L. = Evernia prunastri  
 Lichen pulmonarius L. = Lobaria pulmonaria  
 Lichen pyxidatus L. = Cladonia pyxidata, but name can be applied to various cup-shaped species  
 Lichen rangiferinus L. [unranked] sylvaticus L. = Cladonia arbuscula ssp. arbuscula  
 Lichen rangiferinus L. = Cladonia rangiferina  
 Lichen reticulatus Gilib. = Lobaria pulmonaria  
 Lichen rostratus Gilib. = Ramalina calicaris  
 Lichen rugosus Gilib. = Xanthoria parietina  
 Lichen sanguinarius L. = Megalospora sanguinaria  
 Lichen saxatilis L. = Parmelia saxatilis  
 Lichen scriptus L. = Graphis scripta  
 Lichen stellaris L. = Physcia stellaris  
 Lichen subfuscus L. = Lecanora allophana f. allophana

Lichen subulatus L. = Cladonia subulata  
 Lichen tomentosus Gilib. = Evernia prunastri  
 Lichen uncialis L. = Cladonia uncialis ssp. uncialis  
 Lichen venosus Gilib. = Peltigera canina  
 Lithoidea nigrescens (Pers.) A. Massal. f. fuscoatra (Wallr.) Stein = Verrucaria nigrescens  
 Lobaria pulmonaria (L.) Hoffm. f. leptophylla (Wallr.) Zahlbr. = Lobaria pulmonaria  
 Lobaria pulmonaria (L.) Hoffm. f. soledata (Schaer.) Zahlbr. = Lobaria pulmonaria  
 Lobaria verrucosa (Huds.) Hoffm. = Lobaria scrobiculata  
 Lobaria scrobiculata (Scop.) Nyl. ex Cromb. = Lobaria scrobiculata  
  
 Mallotium tomentosum Körb. = Leptogium saturninum  
 Massjukiella candelaria (L.) S.Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix, J.-S. Hur & A. Thell =  
     Polycauliona candelaria  
 Massjukiella polycarpa (Hoffm.) S.Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix, J.-S. Hur & A. Thell  
     = Polycauliona polycarpa  
 Massjukiella ucrainica (S.Y. Kondr.) S.Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix, J.-S. Hur &  
     A. Thell = Polycauliona ucrainica  
 Massjukiella ucrainica (S.Y. Kondr.) S.Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix, J.-S. Hur & A.  
     Thell ssp. marginata (Räsänen) S.Y. Kondr., Fedorenko, S. Stenroos, Kärnefelt, Elix, J.-S. Hur & A.  
     Thell = Polycauliona ucrainica  
 Melanelia acetabulum (Neck.) Essl. = Pleurosticta acetabulum  
 Melanelia exasperata (De Not.) Essl. = Melanohalea exasperata  
 Melanelia exasperatula (Nyl.) Essl. = Melanohalea exasperatula  
 Melanelia fuliginosa (Fr. ex Duby) Essl. sensu auct. Belarus = Melanelixia glabratula  
 Melanelia fuliginosa (Fr. ex Duby) Essl. subsp. glabratula (Lamy) Coppins = Melanelixia glabratula  
 Melanelia glabratula (Lamy) Essl. ssp. glabratula (Lamy) Coppins = Melanelixia glabratula  
 Melanelia incolorata (Parrique) Essl. = Melanohalea elegantula  
 Melanelia olivacea (L.) Essl. = Melanohalea olivacea  
 Melanelia soledata (Ach.) Goward & Ahti = Montanelia soledata  
 Melanelia subargentifera (Nyl.) Essl. = Melanelixia subargentifera  
 Melanelia subaurifera (Nyl.) Essl. = Melanelixia subaurifera  
 Melanelixia fuliginosa (Duby) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch ssp.  
     glabratula (Lamy) J.R. Laundon = Melanelixia glabratula  
 Melanelixia fuliginosa (Duby) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch sensu auct.  
     Belarus = Melanelixia glabratula  
 Melanelixia subaurifera (Nyl.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch f.  
     fuliginoides B. de Lesd. = Melanelixia subaurifera  
 Melaspidea gibberulosa (Ach.) Zwackh = Hazslinszkyia gibberulosa  
 Menegazzia pertusa (Schaer.) Schaer. = Menegazzia terebrata  
 Micarea erratica (Körb.) Hertel, Rambold & Pietschm. = Leimonis erratica  
 Micarea sylvicola (Flot.) Vězda & V. Wirth = Brianaria sylvicola  
 Micarea tuberculata (Sommerf.) R.A. Anderson = Brianaria tuberculata  
 Microphlale diluta (Pers.) Zahlbr. = Coenogonium pineti  
 +Microthelia atomaria (Ach.) Körb. = Mycomicrothelia melanospora  
 +Microthelia koerberi Trevis. = Mycomicrothelia melanospora  
 #Monerolechia badia (Fr.) Kalb = Buellia badia  
 Mycobilimbia sabuletorum (Schreb.) Hafellner = Bilimbia sabuletorum  
 Mycoblastus sanguinarius (L.) Norman = Megalospora sanguinaria  
 +Mycocalicium parietinum (Ach. ex Schaer.) D. Hawksw. = Mycocalicium subtile  
 Mycomicrothelia atomaria (DC.) Keissl. = Leptorhaphis atomaria  
 Mycopyrenula coryli (A. Massal.) Vain. = Pyrenula coryli  
 Myxobilimbia sabuletorum (Schreb.) Hafellner = Bilimbia sabuletorum  
  
 Neofuscelia loxodes (Nyl.) Essl. = Xanthoparmelia loxodes  
 Neofuscelia pulla (Ach.) Essl. = Xanthoparmelia pulla  
 Neofuscelia verruculifera (Nyl.) Essl. = Xanthoparmelia verruculifera



*Nephroma resupinatum* (L.) Ach. var. *rameum* Nyl. = *Nephroma resupinatum*

*Ochrolechia turneri* (Sm.) Land. sensu Gorbach = *Ochrolechia microstictoides*

*Omphalina ericetorum* (Fr.) M. Lange = *Lichenomphalia umbellifera*

*Opegrapha atra* Pers. = *Arthonia atra*

*Opegrapha devulgata* Nyl. = *Opegrapha vulgata*

*Opegrapha diaphora* (Ach.) Ach. = *Alyxoria varia*

*Opegrapha diaphora* Ach. var. *spircata* Ach. = *Alyxoria varia*

*Opegrapha diaphora* Ach. var. *tridens* (Ach.) H. Olivier = *Alyxoria varia*

*Opegrapha hapaleoides* Nyl. = *Opegrapha vermicellifera*

*Opegrapha herpetica* Ach. = *Pseudoschismatomma rufescens*

*Opegrapha lichenoides* Pers. = *Alyxoria varia*

*Opegrapha pulicaris* (Hoffm.) Schrad. = *Alyxoria varia*

*Opegrapha pulicaris* (Hoffm.) Schrad. f. *minuta* = *Alyxoria varia*

*Opegrapha rufescens* Pers. = *Pseudoschismatomma rufescens*

*Opegrapha rufescens* Pers. f. *albicans* (Chevall.) Makar. = *Pseudoschismatomma rufescens*

*Opegrapha rufescens* Pers. f. *arthonoidea* (Schaer.) Makar. = *Pseudoschismatomma rufescens*

*Opegrapha subsiderella* (Nyl.) Arnold = *Opegrapha niveoatra*

*Opegrapha varia* Pers. = *Alyxoria varia*

*Opegrapha varia* Pers. var. *diaphora* Ach. = *Alyxoria varia*

*Opegrapha varia* Pers. var. *pulicaris* Hoffm. = *Alyxoria varia*

*Opegrapha varia* Pers. f. *pulicaris* (Hoffm.) Nyl. = *Alyxoria varia*

*Opegrapha viridis* Pers. = *Zwackhia viridis*

*Oxneria coppinsii* S.Y. Kondr. & Kärnefelt = *Xanthomendoza coppinsii*

*Oxneria fallax* (Hepp) S.Y. Kondr. & Kärnefelt sensu auct. Belarus = *Xanthomendoza huculica*

*Oxneria fulva* (Hoffm.) S.Y. Kondr. & Kärnefelt = *Xanthomendoza fulva*

*Oxneria huculica* S.Y. Kondr. = *Xanthomendoza huculica*

*Oxneria ulophyllodes* (Räsänen) S.Y. Kondr. & Kärnefelt = *Xanthomendoza ulophyllodes*

*Pachyphiale fagicola* (Hepp) Zwackh = *Gyalecta fagicola*

*Parmelia acetabulum* (Neck.) Duby = *Pleurosticta acetabulum*

*Parmelia ambigua* (Wulfen) Ach. = *Parmeliopsis ambigua*

*Parmelia aspera* A. Massal. = *Melanohalea exasperata*

*Parmelia aspidota* (Ach.) Röhl. = *Melanohalea exasperata*

*Parmelia caperata* (L.) Ach. = *Flavoparmelia caperata*

*Parmelia centrifuga* (L.) Ach. = *Arctoparmelia centrifuga*

*Parmelia ceratea* Zopf = *Pseudevernia furfuracea*

*Parmelia cetrarioides* Delise = the reports should be treated as *Cetrelia* spp.

*Parmelia ciliaris* Fr. = *Anaptychia ciliaris*

*Parmelia conspersa* (Ehrh.) Ach. = *Xanthoparmelia conspersa*

*Parmelia conspersa* (Ehrh.) Ach. f. *isidiata* Anzi = *Xanthoparmelia conspersa*

*Parmelia conspurcata* (Schaer.) Vain. = *Melanelixia subargentifera*

*Parmelia cylisphora* (Ach.) Vain. = *Flavoparmelia caperata*

*Parmelia duplicata* Sm. ex Ach. = *Hypogymnia vittata*

*Parmelia elegantula* (Zahlbr.) Räsänen = *Melanohalea elegantula*

*Parmelia exasperata* De Not. = *Melanohalea exasperata*

*Parmelia exasperatula* Nyl. = *Melanohalea exasperatula*

*Parmelia farinacea* Bitter = *Hypogymnia farinacea* Zopf

*Parmelia fuliginosa* (Fr.) Nyl. sensu auct. Belarus = *Melanelixia glabratula*

*Parmelia fuliginosa* (Fr.) Nyl. var. *laetevirens* Nyl. = *Melanelixia glabratula*

*Parmelia furfuracea* (L.) Ach. = *Pseudevernia furfuracea*

*Parmelia furfuracea* (L.) Ach. var. *ceratea* Ach. = *Pseudevernia furfuracea*

*Parmelia glabra* (Nyl.) Vain. var. *conspurcata* (Schaer.) Elenk. = *Melanelixia subargentifera*

*Parmelia glabratula* Lamy = *Melanelixia glabratula*

*Parmelia glabratula* (Lamy) Nyl. ssp. *fuliginosa* (Fr. ex Duby) J.R. Laundon sensu auct. Belarus =  
*Melanelixia glabratula*

*Parmelia glomellifera* Nyl. = *Xanthoparmelia verruculifera*  
*Parmelia isidiotyla* Nyl. auct. Belarus = *Xanthoparmelia verruculifera*  
*Parmelia laetevirens* (Flot.) F. Rosend. = *Melanelixia glabratula*  
*Parmelia molliuscula* Ach. sensu auct. Belarus = *Xanthoparmelia angustiphylla*  
*Parmelia olivacea* (L.) Ach. = *Melanohalea olivacea*  
*Parmelia papulosa* (Anzi) Vain. = *Melanohalea exasperatula*  
*Parmelia papulosa* (Anzi) Vain. f. *epiphylla* Savicz = *Melanohalea exasperatula*  
*Parmelia parietina* = *Xanthoria parietina*  
*Parmelia perlata* (L.) Ach. nom. invalid., refers to *Cetrelia* spp.  
*Parmelia perlata* (L.) Ach. f. *cetrarioides* (Del.) Elenk. nom. invalid., refers to *Cetrelia* spp.  
*Parmelia perlata* (L.) Ach. f. *sorediata* Schaer. nom. invalid., refers to *Cetrelia* spp.  
*Parmelia perlata* (L.) Ach. f. *sorediifera* Oksner nom. invalid., refers to *Cetrelia* spp.  
*Parmelia pertusa* (Schränk) Schaer. = *Menegazzia terebrata*  
*Parmelia physodes* (L.) Ach. = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. f. *arenicola* (B. de Lesd.) = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. f. *cassidiformis* Vereit. = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. f. *epiphylla* Savicz = *Parmelia physodes*  
*Parmelia physodes* (L.) Ach. f. *foraminifera* Vereit. = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. f. *granulata* Boistel = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. f. *labrosa* Ach. = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. f. *platyphylla* Ach. = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. f. *stigmatia* Wallr. = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. f. *typica* Vereit. = *Hypogymnia physodes*  
*Parmelia physodes* (L.) Ach. var. *labrosa* Ach. = *Hypogymnia physodes*  
*Parmelia prolixa* (Ach.) Nyl. = *Xanthoparmelia pulla*  
*Parmelia pulla* Ach. = *Xanthoparmelia pulla*  
*Parmelia pulverulenta* Hoffm. = *Physconia distorta*  
*Parmelia revoluta* Flörke = *Hypotrachyna revoluta*  
*Parmelia rubescens* (Th. Fr.) Vain. = *Cetrelia olivetorum*, but excluded as doubtful report  
*Parmelia saxatilis* (L.) Ach. var. *aizonii* Delise = *Parmelia saxatilis*  
*Parmelia scorteia* (Ach.) Ach. = *Parmelina tiliacea*  
*Parmelia sorediata* (Ach.) Th. Fr. = *Montanelia sorediata*  
*Parmelia sorediosa* Almb. = *Montanelia sorediata*  
*Parmelia stuppea* Taylor = *Parmotrema stuppeum*  
*Parmelia subargentifera* Nyl. = *Melanelixia subargentifera*  
*Parmelia subaurifera* Nyl. = *Melanelixia subaurifera*  
*Parmelia sulcata* Taylor f. *epiphylla* Savicz = *Parmelia sulcata*  
*Parmelia sulcata* Taylor f. *munda* Oliv. = *Parmelia sulcata*  
*Parmelia sulcata* Taylor f. *nitida* Mereschk. = *Parmelia sulcata*  
*Parmelia sulcata* Taylor f. *pruinosa* Hillm. = *Parmelia sulcata*  
*Parmelia taractica* sensu auct. Belarus = *Xanthoparmelia angustiphylla*  
*Parmelia tiliacea* (Hoffm.) Ach. = *Parmelina tiliacea*  
*Parmelia tubulosa* (Schaer.) Bitter = *Hypogymnia tubulosa*  
*Parmelia verruculifera* Nyl. = *Xanthoparmelia verruculifera*  
*Parmelia vittata* (Ach.) Bitter = *Hypogymnia vittata*  
*Parmeliopsis aleurites* (Ach.) Nyl. = *Imshaugia aleurites*  
*Parmeliopsis pallescens* (Hoffm.) Zahlbr. = *Imshaugia aleurites*  
*Parmeliopsis pallescens* (Hoffm.) Hillm. f. *vulnerata* (Hillm.) Rassad. = *Imshaugia aleurites*  
*Parmotrema stuppea* (Taylor) Hale = *Parmotrema stuppeum*  
*Peltigera canina* (L.) Schaer. var. *praetextata* Flörke = *Peltigera praetextata*  
*Peltigera canina* (L.) Hoffm. f. *leucorrhiza* (Flörke) Schaer. = *Peltigera canina*  
*Peltigera canina* (L.) Schaer. f. *praetextata* Flörke = *Peltigera praetextata*  
*Peltigera canina* (L.) Willd. f. *spongiosa* Tuck. = *Peltigera canina*  
*Peltigera canina* (L.) Hoffm. f. *ulorrhiza* (Flörke) Schaer. = *Peltigera rufescens*  
*Peltigera didactyla* (With.) J.R. Laundon var. *extenuata* (Nyl. ex Vain.) Goffinet & Hastings = *Peltigera extenuata*

*Peltigera erumpens* (Taylor) Vain. = *Peltigera didactyla*  
*Peltigera erumpens* (Tayl.) Lang. var. *hazslinszkyi* (Gyeln.) Oksner = *Peltigera didactyla*  
*Peltigera polydactyla* (Neck.) Hoffm. = the name refers to various *Peltigera* species, including *P. hymenina*,  
*P. neckeri*, *P. neopolydactyla* and *P. polydactylon* (see also Golubkov & Zavarzin 2010)  
*Peltigera polydactyla* Hoffm. var. *hymenina* Ach. = *Peltigera hymenina*  
*Peltigera spuria* (Ach.) DC. = *Peltigera didactyla*  
*Peltigera subcanina* Gyeln. = *Peltigera praetextata*  
*Pertusaria albescens* (Huds.) M. Choisy & Werner = *Lepra albescens*  
*Pertusaria amara* (Ach.) Nyl. = *Lepra amara*  
*Pertusaria amara* (Ach.) Nyl. f. *carpini* Erichsen = *Lepra amara*  
*Pertusaria amara* (Ach.) Nyl. f. *macrosora* Erichsen = *Lepra amara*  
*Pertusaria amara* (Ach.) Nyl. f. *sanguinescens* Erichsen = *Lepra amara*  
*Pertusaria amara* (Ach.) Nyl. var. *alnea* (Ach.) Erichsen = *Lepra amara*  
*Pertusaria amara* (Ach.) Nyl. var. *myrmecina* (Erichsen) Makar. = *Lepra amara*  
*Pertusaria amara* (Ach.) Nyl. var. *pulvinata* (Erichsen) Makar. = *Lepra amara*  
*Pertusaria arborea* (Kreyer) Zahlbr. = *Ochrolechia arborea*  
*Pertusaria coccodes* (Ach.) Nyl. var. *farinosa* Erichsen = *Pertusaria coccodes*  
*Pertusaria communis* DC. = *Pertusaria pertusa*  
*Pertusaria discoidea* (Pers.) Malme = *Lepra albescens*  
*Pertusaria discoidea* (Pers.) Malme f. *minor* Erichsen = *Lepra albescens*  
*Pertusaria discoidea* (Pers.) Malme f. *musculicola* Erichsen = *Lepra albescens*  
*Pertusaria globulifera* (Turner) A. Massal. = *Lepra albescens*  
*Pertusaria globulifera* (Turner) A. Massal. f. *saxicola* Arnold = *Lepra albescens*  
*Pertusaria globulifera* (Turner) A. Massal. f. *henrici* Harm. = *Lepra albescens*  
*Pertusaria hemisphaerica* (Flörke) Erichsen = *Varicellaria hemisphaerica*  
*Pertusaria henrici* (Harm.) Erichsen = *Lepra albescens*  
*Pertusaria laevigata* (Nyl.) Arnold = *Lepra trachythallina*  
*Pertusaria lactea* (L.) Arnold = *Varicellaria lactea*  
*Pertusaria leptospora* Nitschke = *Lepra multipuncta*  
*Pertusaria leucostoma* A. Massal. = *Pertusaria leioplaca*  
*Pertusaria leucostoma* (Bernh.) A. Massal. var. *deshiscens* Erichsen = *Pertusaria leioplaca*  
*Pertusaria lutescens* (Hoffm.) Lamy = *Pertusaria flavida*  
*Pertusaria multipuncta* (Turner) Nyl. = *Lepra multipuncta*  
*Pertusaria multipuncta* (Turner) Nyl. var. *leptospora* Oliv. = *Lepra multipuncta*  
*Pertusaria ophthalmisa* (Nyl.) Nyl. = *Lepra ophthalmiza*  
*Pertusaria pertusa* (L.) Tuck. var. *pertusa* = *Pertusaria pertusa*  
*Pertusaria pertusa* (L.) Tuck. var. *polycarpa* (D.S. Clemente) Zahlbr. = *Pertusaria pertusa*  
*Pertusaria phymatodes* (Ach.) Erichsen = *Pertusaria coccodes*  
*Pertusaria rugosa* Zwakch. nom. dub. = *Pertusaria leioplaca*  
*Pertusaria rugulosa* Zwakch. = *Pertusaria leioplaca*  
*Pertusaria trachythallina* Erichsen = *Lepra trachythallina*  
*Phaeophyscia chloantha* (Ach.) Moberg = *Physciella chloantha*  
*Physcia adscendens* (Fr.) Bitter f. *leptalea* Ach. = *Physcia leptalea*  
*Physcia aipolia* (Ehrh. ex Humb.) Fűrnr. var. *alnophila* (Vain.) Lynge = *Physcia alnophila*  
*Physcia astroidea* auct. = *Physcia clementei*  
*Physcia ciliata* (Hoffm.) Du Rietz = *Phaeophyscia ciliata*  
*Physcia ciliata* (Hoffm.) Du Rietz f. *typica* Oksner = *Phaeophyscia ciliata*  
*Physcia cyclozelis* Vain. = *Phaeophyscia orbicularis*  
*Physcia detera* Nyl. = *Physconia detera*  
*Physcia grisea* (Lam.) Zahlbr. = *Physconia grisea*  
*Physcia grisea* (Lam.) Zahlbr. sensu Tomin = *Physconia detera*  
*Physcia grisea* (Lam.) Elenk. var. *leucoleiptes* Tuck. = *Physconia detera*  
*Physcia grisea* (Lam.) Elenk. var. *leucoleiptes* Tuck. f. *argyphaeoides* Harm. = *Physconia detera*  
*Physcia grisea* (Lam.) Elenk. var. *leucoleiptes* Tuck. f. *typica* Elenk. = *Physconia detera*  
*Physcia grisea* (Lam.) Zahlbr. var. *pityrea* (Ach.) Lynge = *Physconia grisea*  
*Physcia grisea* (Lam.) Zahlbr. var. *semifarrea* (Vain.) Lynge = *Physconia grisea*



*Physcia hispida* sensu auct. Belarus = *Physcia adscendens*  
*Physcia hispida* sensu auct. Gorbach = *Physcia tenella*  
*Physcia hispida* (Schreb.) Elenk. var. *adscendens* Fr. = *Physcia adscendens*  
*Physcia hispida* (Schreb.) Elenk. var. *tenella* (Scop.) Fr. = *Physcia tenella*  
*Physcia hispida* (Schreb.) Elenk. var. *tenella* (Scop.) Fr. f. *epiphylla* Savicz = *Physcia tenella*  
*Physcia leucoleiptes* (Tuck.) Lettau = *Physconia detera*  
*Physcia nigricans* (Flörke) Stizenb. = *Phaeophyscia nigricans*  
*Physcia obscura* (Ehrh.) Th. Fr. = *Phaeophyscia ciliata*  
*Physcia obscura* Ehrh. var. *chloantha* (Ach.) Schaer. = *Physciella chloantha*  
*Physcia obscura* Ehrh. var. *virella* (Ach.) Leight. = *Phaeophyscia orbicularis*  
*Physcia obscura* (Ehrh.) Th. Fr. f. *cycloselis* (Ach.) Th. Fr. = *Phaeophyscia ciliata*  
*Physcia obscura* (Ehrh.) Th. Fr. f. *ulothrix* (Ach.) Th. Fr. = *Phaeophyscia ciliata*  
*Physcia orbicularis* (Neck.) Du Rietz = *Phaeophyscia orbicularis*  
*Physcia pityrea* (Ach.) Nyl. = *Physconia grisea*  
*Physcia pulverulenta* (Schreb.) Hampe = *Physconia distorta*  
*Physcia pulverulenta* (Schreb.) Nyl. var. *allochroa* (Ehrh.) Th. Fr. = *Physconia distorta*  
*Physcia pulverulenta* (Schreb.) Nyl. var. *allochroa* (Ehrh.) Th. Fr. f. *argyphaea* (Ach.) Harm. = *Physconia distorta*  
*Physcia pulverulenta* (Ach.) Nyl. var. *allochroa* (Ehrh.) Th. Fr. f. *imbricata* B. de Lesd. = *Physconia distorta*  
*Physcia pulverulenta* (Schreb.) Nyl. var. *turgida* (Schaer.) Elenk. f. *imbricata* B. de Lesd. = *Physconia distorta*  
*Physcia pulverulenta* (Schreb.) Nyl. f. *venusta* (Ach.) Th. Fr. = *Physconia distorta*  
*Physcia pulverulenta* (Ach.) Nyl. var. *venusta* (Ach.) Nyl. = *Physconia distorta*  
*Physcia semipinnata* (J.F. Gmel.) Moberg = *Physcia leptalea*  
*Physcia stellaris* (L.) Nyl. var. *radiala* (Ach.) Nyl. = *Physcia stellaris*  
*Physcia stellaris* (L.) Nyl. var. *rosulata* (Ach.) Nyl. = *Physcia stellaris*  
*Physcia tenella* (Scop.) DC. f. *leptalea* Ach. = *Physcia leptalea*  
*Physcia tenella* (Scop.) DC. f. *exemta* Ach. = *Physcia tenella*  
*Physcia tremulicola* Nyl. = *Phaeophyscia nigricans*  
*Physcia tremulicola* Nyl. f. *typica* Lynge = *Phaeophyscia nigricans*  
*Physcia virella* (Ach.) Kreyer = *Phaeophyscia orbicularis*  
*Physconia pulverulacea* Moberg = *Physconia distorta*  
*Physconia pulverulenta* (Hoffm.) Poelt = *Physconia distorta*  
*Physconia venusta* (Ach.) Poelt sensu auct. Belarus = *Physconia distorta*  
*Placodium aurantiacum* (Lightf.) Hepp var. *flavovirescens* (Wulfen) Th. Fr. = *Gyalolechia flavovirescens*  
*Placodium cerinellum* (Nyl.) Vain. = *Athallia cerinella*  
*Placodium cerinum* (Ehrh.) Vain. sensu auct. Belarus = *Athallia pyracea* s. lat.  
*Placodium cerinum* (Ehrh.) Vain. f. *holocarpa* (Ehrh.) Elenk. sensu auct. Belarus = *Athallia pyracea* s. lat.  
*Placodium ferrugineum* (Huds.) Hepp sensu Kreyer = *Blastenia crenularia*  
*Placodium gilvum* (Hoffm.) Vain. = *Caloplaca cerina*  
*Placodium gilvum* (Hoffm.) Vain. f. *cyanolepra* Th. Fr. = *Caloplaca cerina*  
*Placodium gilvum* (Hoffm.) Vain. var. *ehrhartii* (Schaer.) Th. Fr. = *Caloplaca cerina*  
*Placodium murorum* (Hoffm.) DC. = *Calogaya pusilla*  
*Placodium murorum* (Hoffm.) DC. var. *tegularis* (Ehrh.) Elenk. = *Calogaya pusilla*  
*Placolecanora muralis* (Schreb.) Räsänen = *Protoparmeliopsis muralis*  
*Porina aenea* (Wallr.) Zahlbr. = *Pseudosagedia aenea*  
*Porina carpinea* (Pers.) Zahlbr. = *Pseudosagedia aenea*  
*Porpidia musiva* (Körb.) Hertel & Knoph = *Porpidia cinereoatra*  
*Pseudevernia furfuracea* (L.) Zopf var. *ceratea* (Ach.) D. Hawksw. = *Pseudevernia furfuracea*  
*Pseudosagedia cerasi* (Schrad.) Oksner = *Arthopyrenia cerasi*  
*Psora ostreata* Hoffm. = *Hypocenomyce scalaris*  
*Psora scalaris* (Ach. ex Lilj.) Hook. = *Hypocenomyce scalaris*  
*Pyrrhospora elabens* (Fr.) Hafellner = *Ramboldia elabens*

*Ramalina angustissima* (Anzi) Vain. = *Ramalina subfarinacea*  
*Ramalina baltica* Lettau f. *lobulosa* Kreyer = *Ramalina baltica*

*Ramalina baltica* Lettau f. *galeaformis* Kreyer = *Ramalina baltica*  
*Ramalina baltica* Lettau var. *baltica* = *Ramalina baltica*  
*Ramalina crinalis* (Ach.) Gyeln. = *Ramalina thrausta*  
*Ramalina crinalis* (Ach.) Gyeln. var. *thrausta* (Ach.) Motyka = *Ramalina thrausta*  
*Ramalina dilacerata* (Hoffm.) Hoffm. f. *turgida* Räsänen = *Ramalina dilacerata*  
*Ramalina fallax* Motyka = *Ramalina farinacea*  
*Ramalina farinacea* (L.) Ach. var. *pendulina* Ach. = *Ramalina farinacea*  
*Ramalina farinacea* (L.) Ach. var. *multifida* Ach. = *Ramalina farinacea*  
*Ramalina farinacea* (L.) Ach. var. *luxurians* Motyka = *Ramalina farinacea*  
*Ramalina farinacea* (L.) Ach. var. *rubescens* Räsänen = *Ramalina farinacea*  
*Ramalina farinacea* (L.) Ach. var. *gracilentia* Ach. = *Ramalina farinacea*  
*Ramalina farinacea* (L.) Ach. var. *phalerata* Ach. = *Ramalina farinacea*  
*Ramalina farinacea* (L.) Ach. var. *rubescens* Räsänen = *Ramalina farinacea*  
*Ramalina fastigiata* (Liljebl.) Ach. var. *horrida* Motyka = *Ramalina fastigiata*  
*Ramalina fraxinea* (L.) Ach. f. *ampliata* (Ach.) Schaer. = *Ramalina fraxinea*  
*Ramalina fraxinea* (L.) Ach. f. *calicariformis* Nyl. = *Ramalina fraxinea*  
*Ramalina fraxinea* (L.) Ach. var. *crispa* Motyka = *Ramalina fraxinea*  
*Ramalina landroënsis* Zopf = *Ramalina sinensis*  
*Ramalina landroënsis* Zopf v. *nervosa* (Nyl.) Motyka = *Ramalina sinensis*  
*Ramalina minuscula* Nyl. = *Ramalina dilacerata*  
*Ramalina obtusata* (Ach.) Bitter sensu auct. Belarus = *Ramalina baltica*  
*Ramalina pollinaria* (Westr.) Ach. f. *hemisphaerica* Tomin = *Ramalina pollinaria*  
*Ramalina pollinaria* (Westr.) Ach. var. *elatior* Ach. = *Ramalina pollinaria*  
*Ramalina pollinaria* (Westr.) Ach. var. *humilis* Ach. = *Ramalina pollinaria*  
*Ramalina pollinaria* (Westr.) Ach. var. *subbaltica* Kreyer = *Ramalina pollinaria*  
*Ramalina populina* (Ehrh. ex Hoffm.) Vain. = *Ramalina fastigiata*  
*Ramalina pulvinata* (Anzi) Jatta sensu auct. Belarus = *Ramalina pollinaria*  
*Rhizocarpon ambiguum* (Schaer.) Zahlbr. = *Rhizocarpon distinctum*  
*Rhizocarpon concentricum* (Davies) Beltr. = *Rhizocarpon petraeum*  
*Rhizocarpon concentricum* (Dav.) Beltr. f. *excentricum* Ach. = *Rhizocarpon petraeum*  
*Rhizocarpon obscuratum* (Flörke) Körb. = *Rhizocarpon reductum*  
*Rhizocarpon obscuratum* (Flörke) Körb. f. *subcontiguum* Nyl. = *Rhizocarpon reductum*  
*Rhizocarpon obscuratum* (Ach.) A. Massal. var. *lavatum* (Ach.) Fr. = *Rhizocarpon lavatum*  
*Rinodina arenaria* (Hepp) Th. Fr. = *Rinodina teichophila*  
*Rinodina discolor* (Hepp) Arnold = *Rinodina oxydata*  
*Rinodina exigua* (Ach.) A. Massal. var. *lecideina* Nyl. = identity uncertain  
*Rinodina sophodes* (Ach.) Th. Fr. var. *genuina* Th. Fr. = misidentification  
*Rinodina subexigua* (Nyl.) H. Olivier = *Rinodina gennarii*

*Saccomorpha arenicola* Elenkin = *Placynthiella hyporhoda*  
*Saccomorpha uliginosa* (Schrad.) Hafellner = *Placynthiella uliginosa*  
*Sarcogyne pruinosa* (Sm.) Körb. f. *illuta* Ach. = *Sarcogyne regularis*  
*Schismatomma abietinum* (Ehrh.) Körb. = *Schismatomma pericleum*  
*Sclerophora nivea* (Hoffm.) Tibell = *Sclerophora pallida*  
*Scoliciosporum umbrinum* (Ach.) Arnold var. *corticolum* (Anzi) Bagl. & Carestia = *Scoliciosporum umbrinum*  
*Sphinctrina gelasinata* (With.) Zahlbr. = *Sphinctrina turbinata*  
*Squamaria muralis* (Schreb.) Elenk. = *Protoparmeliopsis muralis*  
*Staurothele catalepta* (Ach.) Blomb. & Forssell = *Verrucaria aethiobola*  
*Stereocaulon coralloides* Fr. = *Stereocaulon dactylophyllum*  
*Sticta pulmonaria* (L.) Schaer. = *Lobaria pulmonaria*

*Thelocarpon prasinellum* Nyl. = *Thelocarpon laureri*  
*Tuckermannopsis chlorophylla* (Willd.) Hale = *Nephromopsis chlorophylla*  
*Tuckermannopsis ciliaris* (Ach.) Gyeln. = *Nephromopsis ciliaris*  
*Tuckermannopsis pinastri* (Scop.) Hale = *Cetraria pinastri*

*Tuckermannopsis sepincola* (Ehrh.) Hale = *Cetraria sepincola*

*Urceolaria scruposa* (L.) Ach. var. *vulgaris* Körb. = *Diploschistes scruposus*

*Usnea barbata* (L.) Fr. var. *dasypoga* (L.) Fr. = misidentification

*Usnea barbata* (L.) Fr. var. *florida* (L.) Th. Fr. = *Usnea florida*

*Usnea barbata* (L.) Fr. var. *florida* (L.) Th. Fr. f. *hirta* (L.) Körb = *Usnea hirta*

*Usnea barbata* (L.) Fr. var. *florida* (L.) Th. Fr. f. *minutissima* Mereschk. = *Usnea florida*

*Usnea caucasica* Vain. = *Usnea barbata*

*Usnea ceratina* Ach. var. *incurvescens* Arnold = *Usnea ceratina*

*Usnea comosa* (Ach.) Röhl. = *Usnea subfloridana*

*Usnea comosa* (Ach.) Röhl. var. *graucina* Motyka = *Usnea subfloridana*

*Usnea comosa* (Ach.) Röhl. var. *sordidula* Motyka = *Usnea subfloridana*

*Usnea comosa* (Ach.) Röhl. ssp. *similis* Motyka = *Usnea subfloridana*

*Usnea dasypoga* (Ach.) Röhl. ssp. *tuberculata* Motyka = *Usnea dasopoga*

*Usnea dasypoga* (Ach.) Röhl. var. *dasypoga* = *Usnea dasopoga*

*Usnea distincta* Motyka nom illeg. = *Usnea glabrescens*

*Usnea esthonica* Räsänen = *Usnea barbata*

*Usnea filipendula* Stirt. = *Usnea dasopoga*

*Usnea filipendula* Stirt. var. *spuria* (Motyka) N.S. Golubk. = *Usnea dasopoga*

*Usnea florida* (L.) F.H. Wigg. var. *florida* = *Usnea florida*

*Usnea florida* (L.) Hoffm. var. *hirta* (Hoffm.) Ach. = *Usnea hirta*

*Usnea florida* (L.) Hoffm. var. *hirta* (Hoffm.) Ach. f. *minutissima* Mereschk. = *Usnea florida*

*Usnea florida* (L.) Hoffm. var. *hirta* (Hoffm.) Ach. f. *sorediella* Br. & Rostr. = *Usnea florida*

*Usnea florida* (L.) Hoffm. var. *sorediifera* Arnold = *Usnea glabrata*

*Usnea florida* (L.) Hoffm. f. *epiphylla* Savicz = *Usnea hirta*

*Usnea florida* (L.) Hoffm. f. *juvenalis* Savicz = *Usnea florida*

*Usnea hirta* (L.) F.H. Wigg. ssp. *typica* Motyka = *Usnea hirta*

*Usnea hirta* (L.) F.H. Wigg. var. *hirta* Motyka = *Usnea hirta*

*Usnea hirta* (L.) F.H. Wigg. var. *villosa* (Ach.) Motyka = *Usnea hirta*

*Usnea hirta* (L.) Weber ex F.H. Wigg. f. *minutissima* Mereschk. = *Usnea hirta*

*Usnea jubata* Hoffm. – name can be applied to various pendent species of *Bryoria* (see Brodo & Hawksworth 1977, Esslinger 2016)

*Usnea laricina* (Nyl. ex Vain.) Vain. = *Usnea glabrescens*

*Usnea plicata* (L.) Hoffm. = *Usnea dasopoga*

*Usnea prostrata* Vain. = *Usnea barbata*

*Usnea rubiginosa* (Mich.) A. Massal. = *Usnea rubicunda*

*Usnea rugulosa* Vain. = *Usnea barbata*

*Usnea scabrata* Nyl. = *Usnea barbata*

*Usnea sublaxa* Vain. = *Usnea dasopoga*

*Usnea sylvatica* Motyka = *Usnea barbata*

*Variolaria arborea* (Kreyer) Ljubitz. = *Ochrolechia arborea*

*Variolaria globulifera* Turner = *Lepra albescens*

*Variolaria faginea* (L.) Elenk. = *Lepra amara*

*Variolaria faginea* (L.) Elenk. f. *concentrica* Savicz = *Lepra amara*

*Variolaria lactea* (Pers.) Ach. var. *arborea* Kreyer = *Ochrolechia arborea*

*Variolaria laevigata* (Nyl.) Darb. = *Lepra trachythallina*

*Variolaria multipuncta* Turner = *Lepra multipuncta*

*Verrucaria laevata* Ach. = *Verrucaria aethiobola*

*Verrucaria muralis* Ach. var. *puteana* Hepp = *Verrucaria muralis*

*Verrucaria nigricans* Pers. nom. inval. = *Verrucaria nigrescens*

*Verrucaria papillosa* Flörke = *Verrucaria floerkeana*

*Vulpicida juniperinus*. (L.) J.-E. Mattsson & M. J. Lai = *Cetraria juniperina*

*Vulpicida pinastri* (Scop.) J.-E. Mattsson & M. J. Lai = *Cetraria pinastri*

*Xanthomendoza fallax* (Arnold) Søchting, Kärnefelt & S.Y. Kondr. = *Xanthomendoza huculica*



*Xanthoparmelia somloensis* (Gyeln.) Hale sensu auct. Belarus = *Xanthoparmelia angustiphylla*  
*Xanthoparmelia molliuscula* (Ach.) Hale sensu auct. Belarus = *Xanthoparmelia angustiphylla*  
*Xanthoria candelaria* (L.) Th. Fr. = *Polycauliona candelaria*  
*Xanthoria candelaria* (L.) Th. Fr. var. *marginata* Räsänen = *Polycauliona ucrainica*  
*Xanthoria elegans* (Link) Th. Fr. = *Rusavskia elegans*  
*Xanthoria fallax* (Hepp) Arnold sensu Belarus = *Xanthomendoza huculica*  
*Xanthoria fulva* (Hoffm.) Poelt & Petut. = *Xanthomendoza fulva*  
*Xanthoria ligulata* (Körb.) P. James = *Dufourea ligulata*  
*Xanthoria lobulata* (Flörke) B. de Lesd. = *Calogaya lobulata*  
*Xanthoria parietina* (L.) Th. Fr. var. *tumida* Wede = *Xanthoria parietina*  
*Xanthoria polycarpa* (Hoffm.) Rieber = *Polycauliona polycarpa*  
*Xanthoria polycarpa* (Ehrh.) Vain. var. *lychnea* (Ach.) Vain. = *Polycauliona polycarpa*  
*Xanthoria substellaris* (Ach.) Vain. = *Xanthomendoza huculica*  
*Xanthoria ucrainica* S.Y. Kondr. = *Polycauliona ucrainica*  
*Xanthoria ucrainica* S.Y. Kondr. subsp. *marginata* (Räsänen) S.Y. Kondr. & Kärnefelt = *Polycauliona ucrainica*  
*Xanthoria ulophyllodes* Räsänen = *Xanthomendoza ulophyllodes*  
*Xylographa abietina* (Pers.) Zahlbr. = *Xylographa parallela*  
*Xylographa parela* (Ach.: Fr.) Fr. nom. inval. = *Xylographa parallela*  
*Xylographa parella* (Ach.) Behlen & Desbois (misspelling) = *Xylographa parallela*

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#### APPENDIX I – TAXA NOT DOCUMENTED FROM BELAUS IN ~100+ YEARS

As is outlined in the results and discussion section, this is a listing of the 28 taxa that appear not to have been relocated in Belarus in nearly a century or more. Efforts to relocate extant populations of lichens known only from historical reports should prioritize these species.

- Gilibert (1781, 1792)  
*Blennothallia crispa*
- Savicz (1911)  
*Bacidia igniarii*  
*Brianaria tuberculata*
- Kreyer (1913)  
*Bacidia circumspecta*  
*Blastenia crenularia*  
*Cresponea chloroconia*  
*Lecidella carpathica*  
*Schaereria fuscocinerea*  
*Scytinium tenuissimum*
- Bachmann & Bachmann (1920)  
*Bacidia friesiana*  
*Bryobilimbia sanguineoatra*  
*Caloplaca chlorina*  
*Caloplaca obscurella*  
*Cladonia cervicornis*  
*Clauzadea monticola*  
*Lathagrium auriforme*  
*Micarea lynceola*  
*Physciella chloantha*  
*Rhizocarpon subpostumum*  
*Trapelia glebulosa*  
*Trapelia involuta*  
*Verrucaria floerkeana*  
*Verrucaria rupestris*



Savicz & Savicz (1924)  
    *Byssoloma subdiscordans*  
Wyssotzky et al. (1925)  
    *Trapeliopsis gelatinosa*  
Savicz (1925)  
    *Nephroma bellum*  
    *Nephroma parile*  
    *Nephroma resupinatum*